

AV-28WT4EK
AV-28WT4EKS
AV-28WT4EN
AV-28WT4ENS

JVC

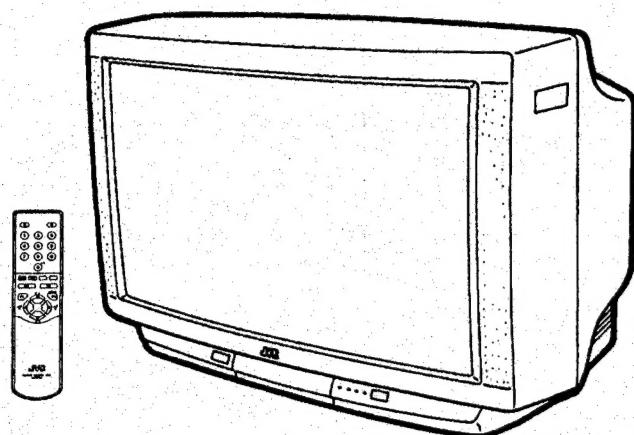
SERVICE MANUAL

COLOUR TELEVISION

**AV-28WT4EK
AV-28WT4EKS
AV-28WT4EN
AV-28WT4ENS**

BASIC CHASSIS

JF



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AV-28WT4EK
AV-28WT4EKS
AV-28WT4EN
AV-28WT4ENS

SPECIFICATIONS

Item	Content	
	AV-28WT4EK / AV-28WT4EKS	AV-28WT4EN / AV-28WT4ENS
Dimensions (W x H x D)	716mm x 489mm x 496mm	
Mass	34.8kg	
TV RF System	CCIR (I)	CCIR (B/G)
Colour System	PAL / NTSC (Only in EXT mode)	PAL / SECAM / NTSC (Only in EXT mode)
Stereo System	NICAM	A2/NICAM
Teletext System	Fastext (United Kingdom system) WST (Standard system)	Fastext (United Kingdom system) TOP (German system) WST (Standard system)
Receiving Frequency		
VHF	47MHz ~ 470MHz	47MHz ~ 470MHz
UHF	470MHz ~ 862MHz	470MHz ~ 862MHz
Intermediate Frequency		
VIF Carrier	39.5MHz (I)	38.9MHz (B/G)
SIF Carrier	33.5MHz (6.0MHz)	33.4MHz (5.5MHz)
Colour Sub Carrier Freq.		
PAL	4.43MHz	4.43MHz
SECAM	—	4.40625MHz / 4.25MHz
NTSC	3.58MHz / 4.43MHz	3.58MHz / 4.43MHz
Power Input	AC 220V ~ 240V, 50Hz	
Power Consumption	140W (Max) / 110W (Avg), 110W/h (ITALY)	
Picture Tube	Visible size : 66cm, Measured diagonally	
High Voltage	31.0kV +1kV -1.5kV (at zero beam current)	
Speaker	φ10cm round (8Ω) × 2	
Audio Output	5W + 5W	
EXT-1/EXT-2(Input/Output)	21-pin Euro connector(SCART socket)	
EXT3 (Input) Video	1Vp-p 75Ω (RCA pin jack)	
Audio(L/R)	500mVrms (-4dBs), High Impedance (RCA pin jack)	
S / Video	Y : 1Vp-p POSITIVE (Negative sync Provided, when terminated with 75Ω) C : 0.286Vp-p (Burst signal, when terminated with 75Ω)	
Aerial Input Term.	75Ω unbalanced, Coaxial	
Headphone jack	Stereo mini jack (φ3.5mm)	
Remote Control Unit	RM-C794 (AAA / R03 dry battery × 2)	RM-C795 (AAA / R03 dry battery × 2)

Design & specifications are subject to change without notice.

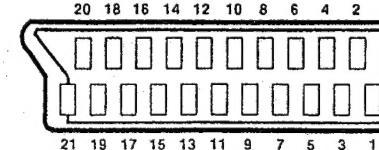
AV-28WT4EK
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■ 21-pin Euro connector (SCART socket) : EXT-1 / EXT-2

(P-P= Peak to Peak, S-W= Sync tip to white peak, B-W= Blanking to white peak)

Pin No.	Signal Designation	Matching Value	EXT-1	EXT-2
1	AUDIO R output	500mVrms(Nominal), Low impedance	○ (TV OUT)	○ (TV/LINE OUT)
2	AUDIO R input	500mVrms(Nominal), High impedance	○	○
3	AUDIO L output	500mVrms(Nominal), Low impedance	○ (TV OUT)	○ (TV/LINE OUT)
4	AUDIO GND	—	○	○
5	GND (B)	—	○	○
6	AUDIO L input	500mVrms(Nominal), High impedance	○	○
7	B input	700mV _{B-W} , 75Ω	○	NC
8	FUNCTON SW (SLOW SW)	Low : 0-3V, High : 8-12V, High impedance	○	NC
9	GND (G)	—	○	○
10	SCL3	—	NC	○
11	G input	700mV _{B-W} , 75Ω	○	NC
12	SDA3	—	NC	○
13	GND (R)	—	○	○
14	GND (Y _s)	—	○	NC
15	R / C input	R : 700mV _{B-W} , 75Ω C : 300mV _{P-P} , 75Ω	○ (R/C)	○ (only C)
16	Y _s input	Low : 0 - 0.4, High : 1 - 3V, 75Ω	○	NC
17	GND(VIDEO output)	—	○	○
18	GND(VIDEO input)	—	○	○
19	VIDEO output	1V _{P-P} (Negative going sync), 75Ω	○ (TV)	○ (TV/LINE OUT)
20	VIDEO / Y input	1V _{P-P} (Negative going sync), 75Ω	○	○
21	COMMON GND	—	○	○

[Pin assignment]



SEFETY PRECAUTIONS AV-28WT4EK / AV-28WT4EKS

1. The design of this product contains special hardware and many circuits and components specially for safety purposes. For continued protection, no changes should be made to the original design unless authorized in writing by the manufacturer. Replacement parts must be identical to those used in the original circuits. Service should be performed by qualified personnel only.
2. Alterations of the design or circuitry of the product should not be made. Any design alterations or additions will void the manufacturer's warranty and will further relieve the manufacturer of responsibility for personal injury or property damage resulting therefrom.
3. Many electrical and mechanical parts in the product have special safety-related characteristics. These characteristics are often not evident from visual inspection nor can the protection afforded by them necessary be obtained by using replacement components rated for higher voltage, wattage, etc. Replacement parts which

have these special safety characteristics are identified in the Parts List of Service Manual. Electrical components having such features are identified by shading on the schematics and by (Δ) on the Parts List in the Service Manual. The use of a substitute replacement which does not have the same safety characteristics as the recommended replacement part shown in the Parts List of Service Manual may cause shock, fire, or other hazards.

4. The leads in the products are routed and dressed with ties, clamps, tubing's, barriers and the like to be separated from live parts, high temperature parts, moving parts and / or sharp edges for the prevention of electric shock and fire hazard. When service is required, the original lead routing and dress should be observed, and it should be confirmed that they have been returned to normal, after re-assembling.

WARNING

1. The equipment has been designed and manufactured to meet international safety standards.
2. It is the legal responsibility of the repairer to ensure that these safety standards are maintained.
3. Repairs must be made in accordance with the relevant safety standards.
4. It is essential that safety critical components are replaced by approved parts.
5. If mains voltage selector is provided, check setting for local voltage.

SAFETY PRECAUTIONS AV-28WT4EN / AV-28WT4ENS

1. The design of this product contains special hardware, many circuits and components specially for safety purposes. For continued protection, no changes should be made to the original design unless authorized in writing by the manufacturer. Replacement parts must be identical to those used in the original circuits. Service should be performed by qualified personnel only.
2. Alterations of the design or circuitry of the products should not be made. Any design alterations or additions will void the manufacturer's warranty and will further relieve the manufacturer of responsibility for personal injury or property damage resulting therefrom.
3. Many electrical and mechanical parts in the products have special safety-related characteristics. These characteristics are often not evident from visual inspection nor can the protection afforded by them necessarily be obtained by using replacement components rated for higher voltage, wattage, etc. Replacement parts which have these special safety characteristics are identified in the parts list of Service manual. Electrical components having such features are identified by shading on the schematics and by (Δ) on the parts list in Service manual. The use of a substitute replacement which does not have the same safety characteristics as the recommended replacement part shown in the parts list of Service manual may cause shock, fire, or other hazards.
4. Don't short between the LIVE side ground and ISOLATED (NEUTRAL) side ground or EARTH side ground when repairing. Some model's power circuit is partly different in the GND. The difference of the GND is shown by the LIVE : (L) side GND, the ISOLATED(NEUTRAL) : (+) side GND and EARTH : (G) side GND. Don't short between the LIVE side GND and ISOLATED(NEUTRAL) side GND or EARTH side GND and never measure with a measuring apparatus (oscilloscope etc.) the LIVE side GND and ISOLATED(NEUTRAL) side GND or EARTH side GND at the same time. If above note will not be kept, a fuse or any parts will be broken.
5. If any repair has been made to the chassis, it is recommended that the B1 setting should be checked or adjusted (See ADJUSTMENT OF B1 POWER SUPPLY).
6. The high voltage applied to the picture tube must conform with that specified in Service manual. Excessive high voltage can cause an increase in X-Ray emission, arcing and possible component damage, therefore operation under excessive high voltage conditions should be kept to a minimum, or should be prevented. If severe arcing occurs, remove the AC power immediately and determine the cause by visual inspection (incorrect installation, cracked or melted high voltage harness, poor soldering, etc.). To maintain the proper minimum level of soft X-Ray emission, components in the high voltage circuitry including the picture tube must be the exact replacements or alternatives approved by the manufacturer of the complete product.
7. Do not check high voltage by drawing an arc. Use a high voltage meter or a high voltage probe with a VTM. Discharge the picture tube before attempting meter connection, by connecting a clip lead to the ground frame and connecting the other end of the lead through a 10kΩ 2W resistor to the anode button.
8. When service is required, observe the original lead dress. Extra precaution should be given to assure correct lead dress in the high voltage circuit area. Where a short circuit has occurred, those components that indicate evidence of overheating should be replaced. Always use the manufacturer's replacement components.

9. Isolation Check
(Safety for Electrical Shock Hazard)

After re-assembling the product, always perform an isolation check on the exposed metal parts of the cabinet (antenna terminals, video/audio input and output terminals, Control knobs, metal cabinet, screwheads, earphone jack, control shafts, etc.) to be sure the product is safe to operate without danger of electrical shock.

(1) Dielectric Strength Test

The isolation between the AC primary circuit and all metal parts exposed to the user, particularly any exposed metal part having a return path to the chassis should withstand a voltage of 3000V AC (r.m.s.) for a period of one second.

(... Withstand a voltage of 1100V AC (r.m.s.) to an appliance rated up to 120V, and 3000V AC (r.m.s.) to an appliance rated 200V or more, for a period of one second.)

This method of test requires a test equipment not generally found in the service trade.

(2) Leakage Current Check

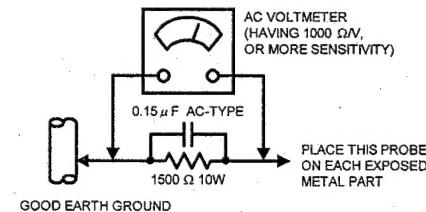
Plug the AC line cord directly into the AC outlet (do not use a line isolation transformer during this check.). Using a "Leakage Current Tester", measure the leakage current from each exposed metal part of the cabinet, particularly any exposed metal part having a return path to the chassis, to a known good earth ground (water pipe, etc.). Any leakage current must not exceed 0.5mA AC (r.m.s.).

However, in tropical area, this must not exceed 0.2mA AC (r.m.s.).

● Alternate Check Method

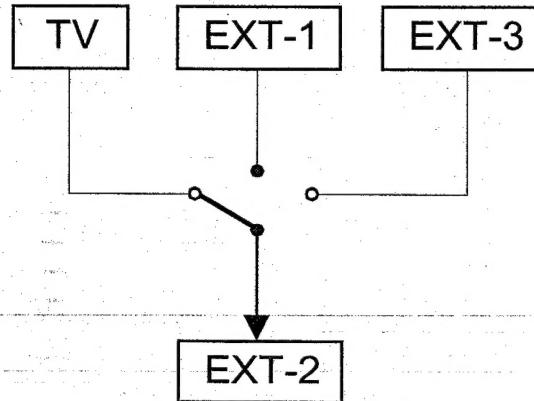
Plug the AC line cord directly into the AC outlet (do not use a line isolation transformer during this check.). Use an AC voltmeter having 1000 ohms per volt or more sensitivity in the following manner. Connect a 1500Ω 10W resistor paralleled by a 0.15μF AC-type capacitor between an exposed metal part and a known good earth ground (water pipe, etc.). Measure the AC voltage across the resistor with the AC voltmeter. Move the resistor connection to each exposed metal part, particularly any exposed metal part having a return path to the chassis, and measure the AC voltage across the resistor. Now, reverse the plug in the AC outlet and repeat each measurement. Any voltage measured must not exceed 0.75V AC (r.m.s.). This corresponds to 0.5mA AC (r.m.s.).

However, in tropical area, this must not exceed 0.3V AC (r.m.s.). This corresponds to 0.2mA AC (r.m.s.).



FEATURES

- By preference, users can select the picture size from REGULAR, PANORAMIC, FULL, 14:9 ZOOM, 16:9 ZOOM, 16:9 ZOOM SUB TITLE modes. When the TV unit received WSS picture signal, the picture can be changed to 16:9 ZOOM mode automatically.
- The TELETEXT SYSTEM has a built-in FASTEXT, TOP(Only AV-28WT4EN / AV-28WT4ENS) and WST system.
- Because this TV unit corresponds to multiplex broadcast, users can enjoy music programs and sporting events with live realism. In addition, BILINGUAL programs can be heard in their original language.



MAIN DIFFERENCE PARTS LIST

△ Part Name	Model Name	AV-28WT4EK	AV-28WT4EKS	AV-28WT4EN	AV-28WT4ENS
MAIN PWB	SJF-1923A-U2	↔	SJF-1023A-U2	↔	
IF MODULE PWB	SJF0F921A-U2	↔	SJF0F021A-U2	↔	
△ POWER CORD	AEEMP003-185A	↔	AEEMP001-185	↔	
FRONT CABINET ASSY	CM12677-B0U-E	CM12677-B0V-E	CM12677-B0W-E	CM12677-B0X-E	
DOOR (SERVICE)	CM22898-015-E	CM22898-017-E	CM22898-015-E	CM22898-017-E	
SPEAKER NET (×2)	CM36226-C0A-H	CM36226-00B-H	CM36226-C0A-H	CM36226-00B-H	
JVC MARK	CM48125-001	CM48125-004	CM48125-001	CM48125-004	
POWER KNOB (SERVICE)	CM36225-010-E	CM36225-011-E	CM36225-010-E	CM36225-011-E	
△ RATING LABEL	LC20091-005A-U	LC20091-006A-U	LC20092-011A-U LC20093-011A-U	LC20092-012A-U LC20093-012A-U	
△ INST BOOK	LCT0406-001A-U	↔	LCT0407-001A-U LCT0408-001A-U	↔	
EURO LABEL	AEM1039-033-E	AEM1039-034-E	AEM1039-035-E	AEM1039-036-E	
REMOCON UNIT	RM-C794-1E	↔	RM-C795-1E	↔	

SPECIFIC SERVICE INSTRUCTIONS

DISASSEMBLY PROCEDURE

REMOVING THE REAR COVER

1. Unplug the power cord.
2. Remove the 13 screws marked "A" as shown in the Fig. 1.
3. Withdraw the rear cover toward you.

REMOVING THE CHASSIS

- After removing the rear cover.

1. Remove the screw marked "(B)" on the S/VIDEO terminal of FRONT CABINET as shown in the Fig. 1.
2. Slightly raise the both sides of the chassis by hand and remove the two claws under the both sides of the chassis from the front cabinet.
3. Withdraw the chassis backward.
(If necessary, take off the wire clamp, connectors etc.)

REMOVING THE AV TERMINAL BOARD

- After removing the rear cover.

1. Remove the 3 screws marked "(C)" as shown in the Fig. 1.
2. While raising the claw marked "(D)", remove the top of the AV TERMINAL BOARD slightly in the direction of arrow "(E)" as shown in Fig. 2.

REMOVING THE SPEAKER BOX

- After removing the rear cover.

1. Remove the 2 screws marked "(F)" as shown in Fig. 1.
2. Follow the same steps when removing the other hand speaker box.

NOTE : When removing the screws marked "(F)" of the speaker box, remove the lower side screw first, and then remove the upper screw.

CHECKING THE PW BOARD

To check the back side of the PW Board.

- 1) Pull out the chassis. (Refer to REMOVING THE CHASSIS).
- 2) Erect the chassis vertically so that you can easily check the back side of the PW Board.

[CAUTION]

- When erecting the chassis, be careful so that there will be no contacting with other PW Board.
- Before turning on power, make sure that the wire connector is properly connected.
- When conducting a check with power supplied, be sure to confirm that the CRT EARTH WIRE (BRAIDED ASS' Y) is connected to the CRT SOCKET PW board.

WIRE CLAMPING AND CABLE TYING

1. Be sure to clamp the wire.
2. Never remove the cable tie used for tying the wires together. Should it be inadvertently removed, be sure to tie the wires with a new cable tie.

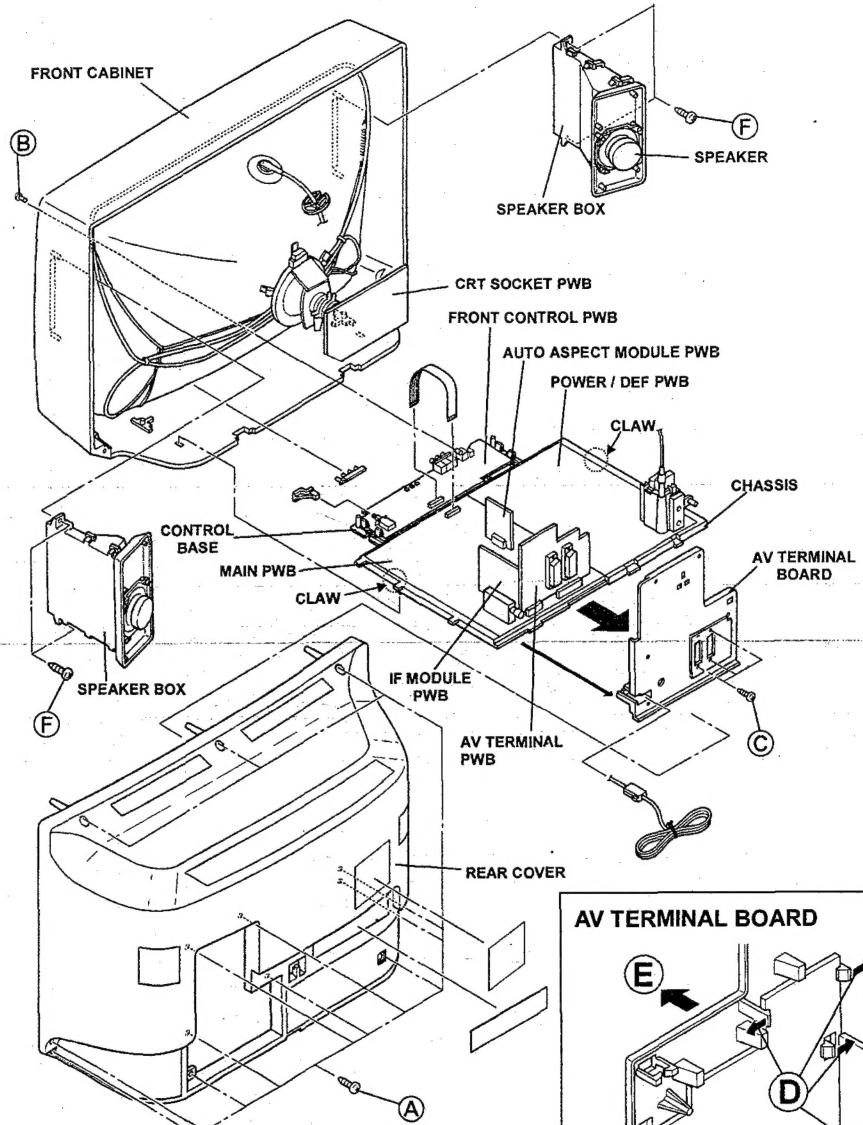


Fig. 1

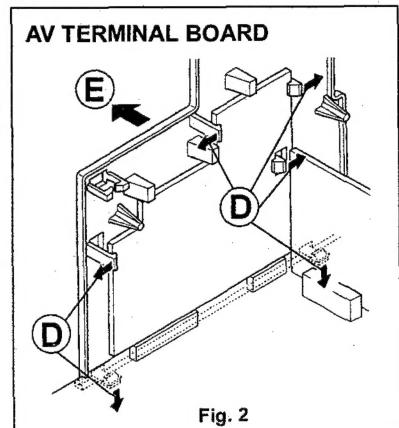


Fig. 2

REMOVING THE CRT

- Replacement of the CRT should be performed by 2 or more persons.
- After removing the cover, chassis etc.,
- 1. Putting the CRT change table on soft cloth, the CRT change table should also be covered with such soft cloth (shown in Fig.3).
- 2. While keeping the surface of CRT down, mount the TV set on the CRT change table balanced will as shown in Fig.4.
- 3. Remove 4 screws marked by arrows with a box type screw driver as shown in Fig.4.
- Since the cabinet will drop when screws have been removed, be sure to support the cabinet with hands.
- 4. After 4 screws have been removed, put the cabinet slowly on cloth (At this time, be carefully so as not to damage the front surface of the cabinet) shown in Fig.5.
- The CRT should be assembled according to the opposite sequence of its dismantling steps.
- * The CRT change table should preferably be smaller than the CRT surface, and its height be about 35cm.

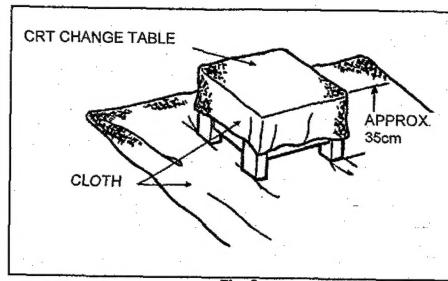


Fig. 3

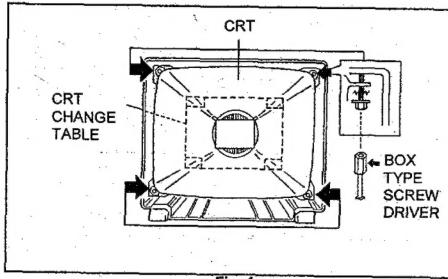


Fig. 4

COATING OF SILICON GREASE FOR ELECTRICAL INSULATION ON THE CRT ANODE CAP SECTION.

- Subsequent to replacement of the CRT and HV transformer or repair of the anode cap, etc. by dismantling them, be sure to coat silicon grease for electrical insulation as shown in Fig.6.

Wipe around the anode button with clean and dry cloth. (Fig.6)
Coat silicon grease on the section around the anode button. At this time, take care so that any silicon greases dose not stick to the anode button. (Fig.7)

★ Silicon grease product No. KS - 650N

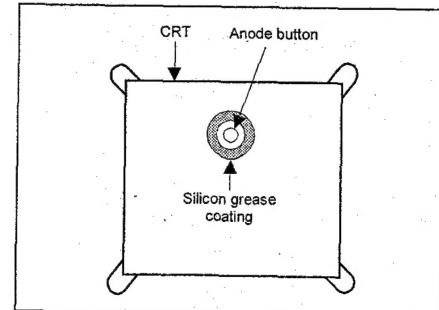


Fig. 6

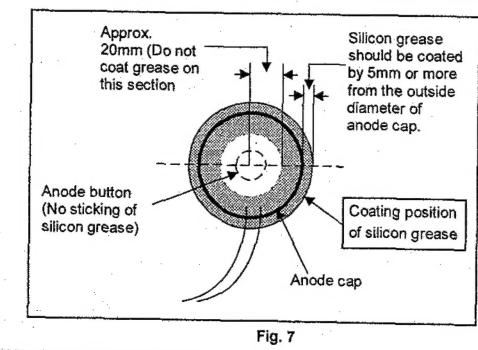


Fig. 7

REPLACEMENT OF MEMORY ICs

1. Memory ICs

This TV use memory ICs. In the memory ICs, there are memorized data for correctly operating the video and deflection circuits. When replacing memory ICs, be sure to use ICs written with the initial values of data.

2. Procedure for replacing memory ICs

PROCEDURE	
(1) Power off	Switch the power off and unplug the power cord from the outlet.
(2) Replace ICs.	Be sure to use memory ICs written with the initial data values.
(3) Power on	Plug the power cord into the outlet and switch the power on.
(4) Check and set SYSTEM CONSTANT SET:	<ol style="list-style-type: none"> 1) Press the INFORMATION key and the MUTING key of the REMOTE CONTROL UNIT simultaneously. 2) The SERVICE MENU screen of Fig. 1 will be displayed. 3) While the SERVICE MENU is displayed, press the INFORMATION key and MUTING key simultaneously, and the SYSTEM CONSTANT SET screen of Fig. 2 will be displayed. 4) Check the setting values of the SYSTEM CONSTANT SET of Table 1. If the value is different, select the setting item with the FUNCTION UP/DOWN key, and set the correct value with the FUNCTION +/- key. 5) Press the MENU key to memorize the setting value. 6) Press the INFORMATION key twice, and return to the normal screen.
(5) Setting of receive channels	Set the receive channel. For setting, refer to the OPERATING INSTRUCTIONS.
(6) User settings	Check the user setting values of Table 2, and if setting value is different, set the correct value. For setting, refer to the OPERATING INSTRUCTIONS.
(7) Setting of SERVICE MENU	Verify the setting items of the SERVICE MENU of Table 3, and reset where necessary. For setting, refer to the SERVICE ADJUSTMENTS.

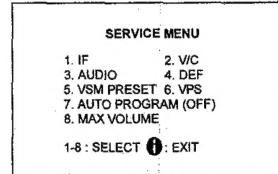


Fig.1

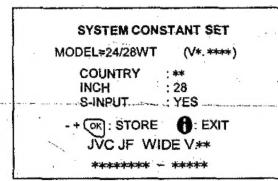


Fig.2

Names of key	key
INFORMATION	①
MUTING	②
MENU	③
FUNCTION UP/DOWN	④
FUNCTION +/-	⑤

SETTING VALUES OF SYSTEM CONSTANT SET (TABLE 1)

Setting item	Setting content	Setting value	
		AV-28WT4EK/AV-28WT4EKS	AV-28WT4EN/AV-28WT4ENS
COUNTRY	► EN ► EK	EK	EN
INCH	► 28 ► 32 ► 24	28	←
S-INPUT	► YES ► NO	YES	←

USER SETTING VALUES (TABLE 2)

Setting item	Setting value	Setting item	Setting value
PICTURE SETTING		EXT SOURCE	
TINT ECO MODE CLOUR SYSTEM 4:3 AUTO ASPECT	COOL OFF TV: Depend on Preset Channel EXT : AUTO PANORAMIC	EXT SETTING DUBBING	BLANK EXT-1 → EXT-2
SOUND SETTING		FEATURES	
STEREO / I II BASS TREBLE BALANCE HYPER SOUND	Depend on Preset Channel CENTER CENTER CENTER OFF	SLEEP TIMER BLUE BACK CHILD LOCK INSTALL LANGUAGE	OFF ON ID No.0000 ALL CHANNEL OFF ENGLISH

SERVICE MENU SETTING ITEMS (TABLE 3)

Setting item	Setting value	Setting item	Setting value
1. IF	1. VCO 2. DELAY POINT	4. DEF.	1. TRAPEZ 2. V-SHIFT 3. V-SIZE 4. H-CENT 5. H-SIZE 6. EW-PIN 7. V-S. CR 8. V-LIN 9. V-EDGE 10. EW-COR 11. ABL POINT 12. ABL GAIN
2. V/C	1. CUT OFF 2. DRIVE 3. BRIGHT 4. CONT. 5. COLOUR 6. TINT (Only NTSC) 7. BLACK OFFSET (Only SECAM) 8. SHARP 9. TEXT (RGB) CONT	5. VSM PRESET COOL NORMAL WARM	1. BRIGHT 2. CONT. 3. COLOUR 4. SHARP 5. TINT 6. R DRIVE 7. B DRIVE 8. BASS 9. TREBLE
3. AUDIO (Do not adjust)	1. CONC LIMIT 2. A2 ID THR	6. VPS (Do not adjust)	VPS PDC
		7. AUTO PROGRAM (Do not adjust)	ON / OFF
		8. MAX VOLUME	LEVEL

SERVICE ADJUSTMENTS

BEFORE STARTING SERVICE ADJUSTMENT

1. There are 2 ways of adjusting this TV: One is with the REMOTE CONTROL UNIT and the other is the conventional method using adjustment parts and components.
2. The setting (adjustment) using the REMOTE CONTROL UNIT is made on the basis of the initial setting values. The setting values which adjust the screen to the optimum condition can be different from the initial setting values.
3. Make sure that connection is correctly made to AC power source.
4. Turn on the power of the TV and measuring instrument for warming up for at least 30 minutes before starting adjustment.
5. If the receive or input signal is not specified, use the most appropriate signal for adjustment.
6. Never touch parts (such as variable resistors, transformers and condensers) not shown in the adjustment items of this service adjustment.
7. Preparation for adjustment (presetting):
Unless otherwise specified in the adjustment items, preset the following functions with the REMOTE CONTROL UNIT:

PICTURE MODE (VSM)	COOL
SLEEP TIMER	OFF
BALANCE	CENTER
ECO	OFF
ZOOM	REGULAR
HYDER SOUND	OFF

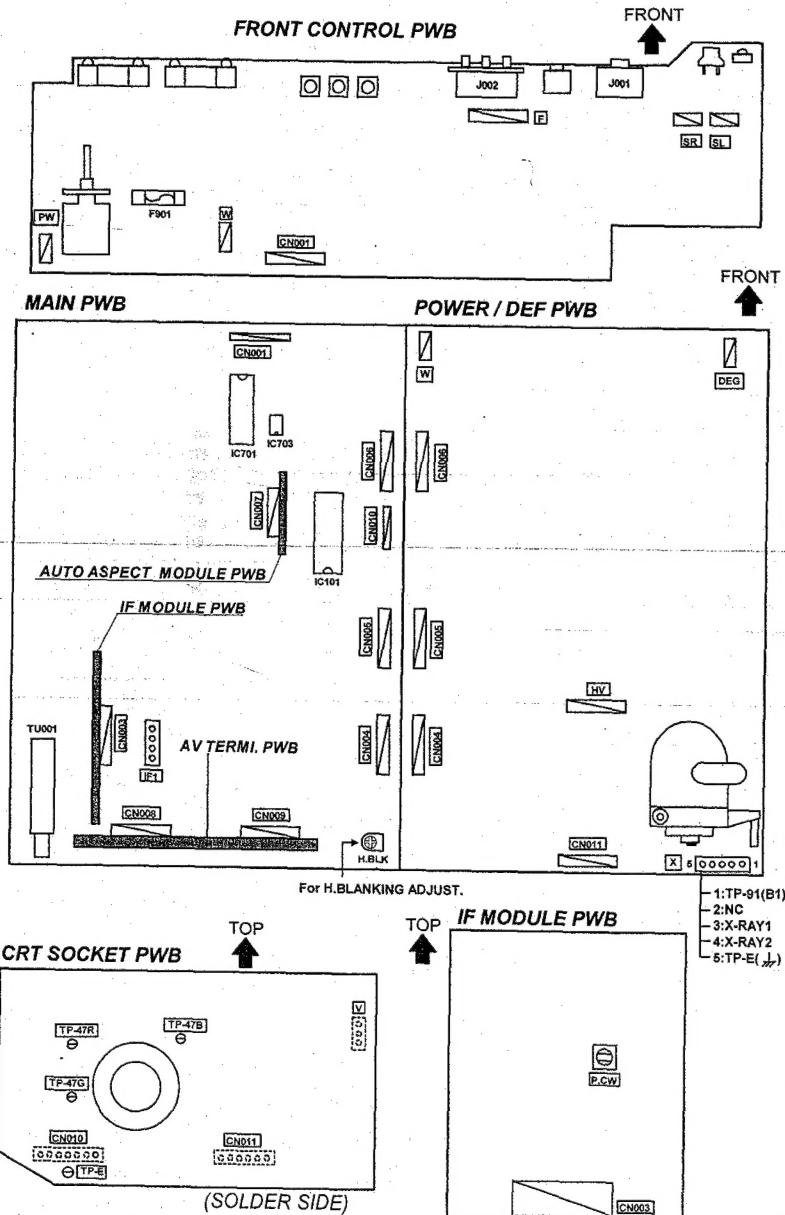
MEASURING INSTRUMENT AND FIXTURES

1. DC voltmeter (or digital voltmeter)
2. Oscilloscope
3. Signal generator (Pattern generator) [PAL / SECAM (Only AV-28WT4EN / ENS) / NTSC]
4. Remote control unit

ADJUSTMENT ITEMS

- B1 power supply check.
- Adjustment of FOCUS.
- IF circuit adjustment.
- VSM preset adjust setting.
- VIDEO / CHROMA circuit adjustment.
- DEFLECTION circuit adjustment.
- H.BLANKING adjustment.
- AUDIO circuit adjustment. (Do not adjust)
- SETTING OF MAX VOLUME.

ADJUSTMENT LOCATIONS



BASIC OPERATION SERVICE MENU

1. TOOL OF SERVICE MENU OPERATION

Operate the SERVICE MENU with the REMOTE CONTROL UNIT.

2. SERVICE MENU ITEMS

With the SERVICE MENU, various settings (adjustments) can be made, and they are broadly classified in the following items of settings (adjustments):

(1) 1. IF This mode adjusts the setting values of the IF circuit.

(2) 2.V/C This mode adjusts the setting values of the VIDEO / CHROMA circuit.

(3) 3.AUDIO This mode adjusts the setting values of the multiplicity SOUND circuit.

(4) 4.DEF This mode adjusts the setting values of the DEFLECTION circuit for each aspect mode given below.

REGULAR (50/60Hz)

PANORAMIC (50/60Hz)

14:9 ZOOM (50/60Hz)

16:9 ZOOM (50/60Hz)

16:9 ZOOM SUB TITLE (50/60Hz)

FULL (50/60Hz)

(5) 5.VSM PRSET This mode adjusts the initial setting values of COOL, NORMAL and WARM.

(VSM : Video Status Memory)

(6) 6.VPS This mode shows the monitor of the VPS and PDC. (Do not adjust).

(VPS : Video Program System, PDC : Program Delivery Code)

(7) 7.AUTO PROGRAM By turning the power switch on, you can get the state of AUTO PROGRAM. (Do not adjust)

(8) 8.MAX VOLUME This mode adjusts the MAX VOLUME. (Do not adjust under normal condition)

3. BASIC OPERATION OF SERVICE MENU

(1) How to enter SERVICE MENU

Press the INFORMATION key and the MUTING key of the REMOTE CONTROL UNIT simultaneously, and the SERVICE MENU screen of Fig. 1 will be displayed.

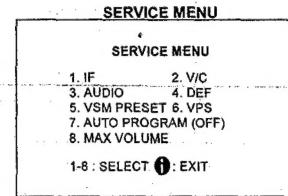


Fig.1

(2) Selection of SUB MENU SCREEN

Press one of keys 1~8 of the REMOTE CONTROL UNIT and select the SUB MENU SCREEN (See Fig. 3), form the SERVICE MENU.

SERVICE MENU → SUB MENU

1. IF
2. V/C
3. AUDIO
4. DEF
5. VSM PRESET
6. VPS
7. AUTO PROGRAM
8. MAX VOLUME

Names of key	key
INFORMATION	①
MUTING	②
MENU	③
FUNCTION UP/DOWN	④
FUNCTION +/-	⑤

Fig.2

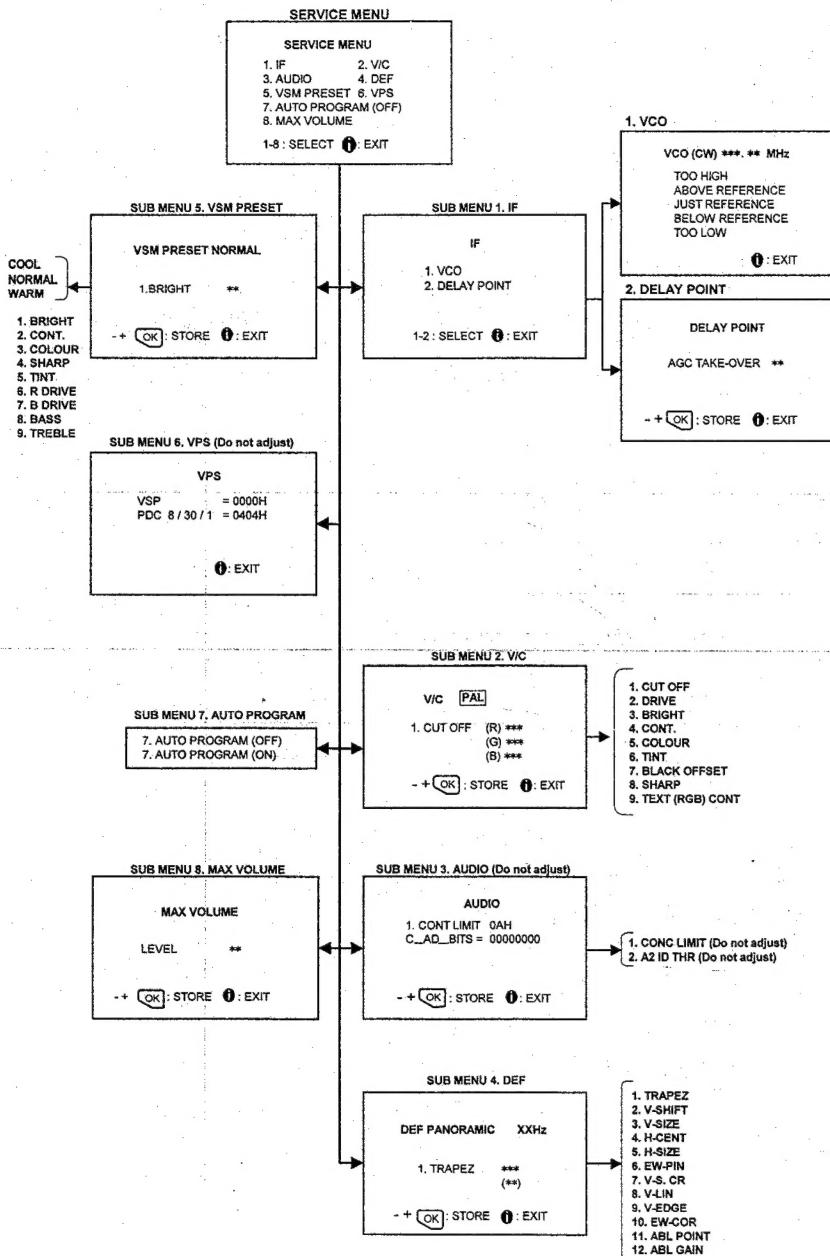


Fig. 3 SUB MENU SCREEN

(3) Method of Setting

1) Method of Setting 1.IF

[1. VCO]

- ① 1 Key Select 1.IF.
- ② 1 Key Select 1.VCO

③ The VCO (CW) screen will be displayed in yellow when the AFC voltage is at a certain level and in blue when it is at other levels.

④ INFORMATION Key As you press this twice, you will return to the SERVICE MENU.

[2. DELAY POINT]

- ① 1 Key Select 1.IF.
- ② 2 Key Select 2.DELAY POINT.

③ FUNCTION -/+ Set (adjust) the setting values of the setting items.

④ MENU Key Memorize the set value.

(Before storing the setting values in memory, do not press the CH, TV, POWER ON / OFF keys
- if you do, the values will not be stored in memory.)

⑤ INFORMATION Key When this is pressed twice, you will return to the SERVICE MENU.

2) Method of setting 2.V/C, 3.AUDIO, 4.DEF and 5.VSM PRESET.

- ① 2~5 Key Select one from 2. V/C, 3. AUDIO, 4. DEF and 5. VSM PRESET.

② FUNCTION UP/DOWN Key Select setting items.

③ FUNCTION -/+ Set (adjust) the setting values of the setting items.

(Use the number keys of the REMOTE CONTROL UNIT for setting of WHITE BALANCE.
For the setting, refer to each item concerned.)

④ MENU Key Memorize the setting value.

(Before storing the setting values in memory, do not press the CH, TV, POWER ON / OFF key -
if you do, the values will not be stored in memory.)

⑤ INFORMATION Key Return to the SERVICE MENU screen.

3) Method of setting 6.VPS and 7.AUTO PROGRAM.

6.VPS This mode displayed monitor of VPS systems. (Do not adjust)

7.AUTO PROGRAM When the MAIN POWER is turned on with the state of AUTO PROGRAM ON, you get a mode that initializes every existing set value including language selection. Because this mode is set at the factory upon completion of the adjustment, you need not to use it for service.

4) Method of setting 8.MAX VOLUME (Do not adjust under normal condition)

- ① 8 Key Select 8. MAX VOLUME.

② FUNCTION -/+ Key Set (adjust) the setting values of the setting items.

③ MENU Key Memorize the setting value.

④ INFORMATION Key Return to the SERVICE MENU screen.

(4) Release of SERVICE MENU

1) After completing the setting, return to the SERVICE MENU, then again press the INFORMATION key.

ADJUSTMENTS

B1 POWER SUPPLY CHECK

Item	Measuring instrument	Test point	Adjustment part	Description
Check of B1 Power Supply	Signal Generator DC voltmeter	TP-91(B1) TP-E(↓) [X connector on MAIN PWB]		<ol style="list-style-type: none"> Receive a whole black signal. Connect a DC voltmeter to TP-91(B1) and TP-E (↓). Make sure that the voltage is DC141.5±2.0V.

FOCUS ADJUSTMENT

Item	Measuring instrument	Test point	Adjustment part	Description
Adjustment of FOCUS	Signal generator		FOCUS VR [In HVT]	<ol style="list-style-type: none"> Receive a cross-hatch signal. While watching the screen, adjust the FOCUS VR to make the vertical and horizontal lines as fine and sharp as possible. Make sure that when the screen is darkened, the lines remain in good focus.

IF CIRCUIT ADJUSTMENT

Item	Measuring instrument	Test point	Adjustment part	Description												
Adjustment of VCO	Remote control unit		P. CW TRANSF. [On IF MODULE PWB]	<ul style="list-style-type: none"> Under normal conditions, no adjustment is required. Select 1.IF from the SERVICE MENU. Press 1 key and select 1.VCO. Select a receivable broadcast channel with the CHANNEL key. Turn the core of P. CW TRANSF. until the colour of the characters TOO HIGH displayed on the screen changes from blue to <u>Yellow</u>. (Step 1) Turn the core of P. CW TRANSF. until the colour of the characters TOO LOW changes from blue to <u>Yellow</u>. (Step 2) Then slowly turn back the core of P. CW TRANSF. until the colour of the characters JUST REFERENCE changes from blue to <u>Yellow</u>. (Step 3) Press the INFORMATION key three times to return to normal screen. Perform CHANNEL PRESET again, and make sure that each broadcast is being received properly. 												
			<table border="1"> <thead> <tr> <th>Screen display</th> <th>Step</th> </tr> </thead> <tbody> <tr> <td>TOO HIGH</td> <td>Yellow → Blue → Blue</td> </tr> <tr> <td>ABOVE REFERENCE</td> <td>Blue → Blue → Blue</td> </tr> <tr> <td>JUST REFERENCE</td> <td>Blue → Blue → <u>Yellow</u></td> </tr> <tr> <td>BELOW REFERENCE</td> <td>Blue → Blue → Blue</td> </tr> <tr> <td>TOO LOW</td> <td>Blue → <u>Yellow</u> → Blue</td> </tr> </tbody> </table>	Screen display	Step	TOO HIGH	Yellow → Blue → Blue	ABOVE REFERENCE	Blue → Blue → Blue	JUST REFERENCE	Blue → Blue → <u>Yellow</u>	BELOW REFERENCE	Blue → Blue → Blue	TOO LOW	Blue → <u>Yellow</u> → Blue	
Screen display	Step															
TOO HIGH	Yellow → Blue → Blue															
ABOVE REFERENCE	Blue → Blue → Blue															
JUST REFERENCE	Blue → Blue → <u>Yellow</u>															
BELOW REFERENCE	Blue → Blue → Blue															
TOO LOW	Blue → <u>Yellow</u> → Blue															
Adjustment of DELAY POINT	Remote control unit		DELAY POINT (AGC TAKE-OVER)	<ol style="list-style-type: none"> Receive a black and white signal (colour off). Select 1.IF from the SERVICE MENU. Select 2.DELAY POINT by pressing the 2 key on the remote control. Adjust the FUNCTION - or + key until video noise disappears. Press the MENU key and memorize the set value. Turn to other channels and make sure that there are no irregularities. 												
			<table border="1"> <thead> <tr> <th>Setting item (Adjustment item)</th> <th>Variable range</th> <th>Initial setting value</th> </tr> </thead> <tbody> <tr> <td>DELAY POINT (AGC TAKE-OVER)</td> <td>0~63</td> <td>30</td> </tr> </tbody> </table>	Setting item (Adjustment item)	Variable range	Initial setting value	DELAY POINT (AGC TAKE-OVER)	0~63	30							
Setting item (Adjustment item)	Variable range	Initial setting value														
DELAY POINT (AGC TAKE-OVER)	0~63	30														

VSM PRESET SETTING

Item	Measuring instrument	Test point	Adjustment part	Description
Setting of VSM PRESET	Remote control unit		1. BRIGHT 2. CONT. 3. COLOUR 4. SHARP 5. TINT 6. R DRIVE 7. B DRIVE 8. BASS 9. TREBLE	1. Select 5.VSM PRESET from the SERVICE MENU. 2. Select COOL with the MENU key of the remote control unit. 3. Adjust the FUNCTION UP/DOWN and +/- key to bring the set values of 1.BRIGHT ~ 9.TREBLE to the values shown in the table. 4. Press the MENU key and memorize the set value. 5. Respectively select the VSM PRESET mode for NORMAL and WARM, and make similar adjustment as in 3 above. 6. Press the MENU key and memorize the set value. * Refer to OPERATING INSTRUCTIONS for the PICTURE MODE.

Setting item	VSM preset mode	COOL	NORMAL	WARM
1. BRIGHT SETTING VALUE	+0	+0	+0	
2. CONT. SETTING VALUE	+12	+10	+2	
3. COLOUR SETTING VALUE	+6	+0	-2	
4. SHARP SETTING VALUE	+0	+0	-2	
5. TINT SETTING VALUE	+0	+0	+0	
6. R DRIVE SETTING VALUE	-10	+15	+22	
7. B DRIVE SETTING VALUE	-20	-25	-43	
8. BASS SETTING VALUE	+0	+0	+0	
9. TREBLE SETTING VALUE	+0	+0	+0	

SETTING VALUES OF VSM PRESET

VIDEO / CHROMA CIRCUIT ADJUSTMENT

The setting (adjustment) using the REMOTE CONTROL UNIT is made on the basis of the initial setting values. The setting values which adjust the screen to the optimum condition can be different from the initial setting values.

Setting Item (Adjustment Item)		Initial setting value
1.CUTOFF	R	-100
	G	-100
	B	-100
2.DRIVE	R	+0
	B	+0
3.BRIGHT		+0
4.CONTRAST		+0

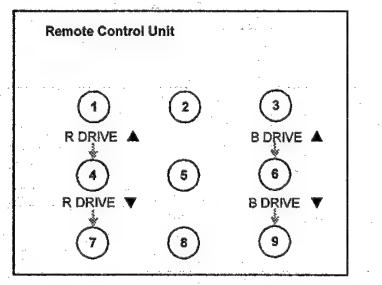
Setting item	Colour system	Initial setting value	
		PAL SECAM	NTSC 3.58 NTSC 4.43
5.COLOUR		+0	+0
6.TINT	Composite VIDEO	—	+0
	S VIDEO	—	+0
7.BLACK OFFSET (SECAM)	R-Y	+0	—
	B-Y	+0	—
8.SHARP		-10	—
9.TEXT CONT		+6	—

Item	Measuring instrument	Test point	Adjustment part	Description
Adjustment of WHITE BALANCE (Low Light)	Signal generator Remote control unit	(R)... (G)... (B)... SCREEN VR [In HVT]	1.CUT OFF (R)... (G)... (B)... SCREEN VR [In HVT]	● Set the PICTURE MODE to COOL. 1. Receive a black and white signal(colour off). 2. Select 2. V/C from the SERVICE MENU. 3. Select 1.CUT OFF with the FUNCTION UP/DOWN key. 4. Show one horizontal line with the 1 key. 5. Gradually turn the SCREEN VR from the left end to the right direction to bring one of the red, green or blue colour faintly visible. 6. Press 4~9 key, and bring out the other 2 colours and make one horizontal line visible in white. 7. Turn the SCREEN VR and bring one white horizontal line faintly visible. 8. Press 2 key, turn off 1.CUT OFF screen. 9. Press the MENU key and memorize the set value.

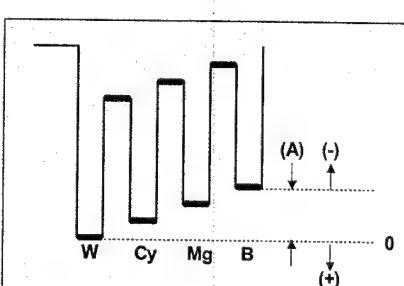
Remote Control Unit

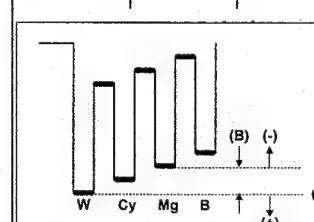
Buttons shown:

- H.LINE ON
- H.LINE OFF
- EXIT
- R CUTOFF ▲
- G CUTOFF ▲
- B CUTOFF ▲
- R CUTOFF ▼
- G CUTOFF ▼
- B CUTOFF ▼
- 1, 2, 3 (top row)
- 4, 5, 6 (middle row)
- 7, 8, 9 (bottom row)

Item	Measuring instrument	Test point	Adjustment part	Description
Adjustment of WHITE BALANCE (High Light)	Signal generator Remote control unit		2.DRIVE (R) * * * (B) * * *	<ol style="list-style-type: none"> Receive a black and white signal (colour off). Select 2.V/C from the SERVICE MENU. Select 2.DRIVE with the FUNCTION UP/DOWN key. Change the screen colour to white with 4 key or 7 key (Drive of Red), 6 key or 9 key (Drive of Blue). Press the MENU key, and memorize the set values. 
Adjustment of SUB BRIGHT	Remote control unit		3.BRIGHT	<ol style="list-style-type: none"> Receive any broadcast. Select 2.V/C from the SERVICE MENU. Select 3.BRIGHT with the FUNCTION UP/DOWN key. Set the initial setting value with the FUNCTION -/+ key. If the brightness is not the best with the initial setting value, make fine adjustment until you get the best brightness. Press the MENU key and memorize the set value.
Adjustment of SUB CONT.	Remote control unit		4.CONT.	<ol style="list-style-type: none"> Receive any broadcast. Select 2.V/C from the SERVICE MENU. Select 4.CONT with the FUNCTION UP/DOWN key. Set the initial setting value with the FUNCTION -/+ key. If the contrast is not the best with the initial setting value, make fine adjustment until you get the best contrast. Press the MENU key and memorize the set value.

Item	Measuring instrument	Test point	Adjustment part	Description
Adjustment of SUB COLOUR I	Remote control unit		5.COLOUR (PAL~NTSC)	[Method of adjustment without measuring instrument]
			PAL COLOUR	(PAL COLOUR) <ol style="list-style-type: none"> Receive PAL broadcast. Select 2.V/C from the SERVICE MENU. Select 5.COLOUR with the FUNCTION UP/DOWN key. Set the initial setting value for PAL COLOUR with the FUNCTION -/+ key. If the colour is not the best with the initial set value, make fine adjustment until you get the best colour. Press the MENU key and memorize the set value.
			SECAM COLOUR Only AV-28WT4EN AV-28WT4ENS	(SECAM COLOUR) <ol style="list-style-type: none"> Receive a SECAM broadcast. Make fine adjustment of SECAM COLOUR in the same manner as for above.
			NTSC COLOUR	(NTSC 3.58 COLOUR) <ol style="list-style-type: none"> Input a NTSC 3.58MHz COMPOSITE VIDEO signal from the EXT terminal. Make similar fine adjustment of NTSC 3.58 COLOUR in the same manner as for above.
				(NTSC 4.43 COLOUR) <ol style="list-style-type: none"> When NTSC 3.58 is set, NTSC 4.43 will be automatically set at the respective values.

Item	Measuring instrument	Test point	Adjustment part	Description						
Adjustment of SUB COLOUR II	Signal generator Oscilloscope Remote control unit	TP-47B TP-E(+) [CRT SOCKET PWB]	5.COLOUR (PAL~NTSC)	[Method of adjustment using measuring instrument]						
			PAL COLOUR	<p>(PAL COLOUR)</p> <ol style="list-style-type: none"> 1. Receive a PAL full field colour bar signal (75% white). 2. Select 2.V/C from the SERVICE MENU. 3. Select 5.COLOUR with the FUNCTION UP/DOWN key. 4. Set the initial setting value of PAL COLOUR with the FUNCTION - or + key. 5. Connect the oscilloscope between TP-47B and TP-E(+). 6. Adjust PAL COLOUR and bring the value of (A) in the illustration to the values as shown given below (voltage difference between white (W) and blue (B)). 7. Press the MENU key and memorize the setting value. <table border="1"> <tr> <th>MODEL</th> <th>VOLTAGE(W-B)</th> </tr> <tr> <td>AV-28WT4EK/EKS</td> <td>+12V</td> </tr> <tr> <td>AV-28WT4EN/ENS</td> <td>+3V</td> </tr> </table>	MODEL	VOLTAGE(W-B)	AV-28WT4EK/EKS	+12V	AV-28WT4EN/ENS	+3V
MODEL	VOLTAGE(W-B)									
AV-28WT4EK/EKS	+12V									
AV-28WT4EN/ENS	+3V									
			SECAM COLOUR (Only AV-28WT4EN AV-28WT4ENS)	<p>(SECAM COLOUR)</p> <ol style="list-style-type: none"> 1. Receive a SECAM full field colour bar signal (75% white). 2. Set the initial setting value of SECAM COLOUR with the FUNCTION +/- key. 3. Adjust SECAM COLOUR and bring the value of (A) of the illustration to +4V. 4. Press the MENU key and memorize the setting value. 						
			NTSC COLOUR	<p>(NTSC 3.58 COLOUR)</p> <ol style="list-style-type: none"> 1. Input a NTSC 3.58MHz COMPOSITE VIDEO signal (full field colour bar with 75% white) from the EXT terminal. 2. Set the initial setting value of NTSC 3.58 COLOUR with the FUNCTION +/- key. 3. Adjust NTSC 3.58 COLOUR and bring the value of (A) of the illustration to +8V(W-B). 4. Press the MENU key and memorize the setting value. <p>(NTSC 4.43 COLOUR)</p> <ol style="list-style-type: none"> 1. When NTSC 3.58 is set, NTSC 4.43 will be automatically set at the respective values. 						

Item	Measuring instrument	Test point	Adjustment part	Description
Adjustment of SUB TINT I	Remote control unit			<p>6.TINT</p> <p>[Method of adjustment without measuring instrument]</p>
				<p>NTSC 3.58 TINT</p> <p>[NTSC 3.58 TINT]</p> <ol style="list-style-type: none"> 1. Input a NTSC 3.58MHz COMPOSITE VIDEO signal (full field colour bar with 75% white) from the EXT terminal. 2. Select 2.V/C from the SERVICE MENU. 3. Select 6.TINT with the FUNCTION UP/DOWN key. 4. Set the initial setting value of NTSC 3.58 TINT with the FUNCTION +/- key. 5. If you cannot get the best tint with the initial setting value, make fine adjustment until you get the best tint. 6. Press the MENU key and memorize the set value.
				<p>NTSC 4.43 TINT</p> <p>[NTSC 4.43 TINT]</p> <ol style="list-style-type: none"> 1. When NTSC 3.58 is set, NTSC 4.43 will be automatically set at the respective values.
Adjustment of SUB TINT II	Signal generator Oscilloscope Remote control unit	TP-47B TP-E(+) [CRT SOCKET PWB]	6.TINT	[Method of adjustment using measuring instrument]
			NTSC 3.58 TINT	<p>[NTSC 3.58 TINT]</p> <ol style="list-style-type: none"> 1. Input a NTSC 3.58MHz COMPOSITE VIDEO signal (full field colour bar with 75% white) from the EXT terminal. 2. Select 2.V/C from the SERVICE MENU. 3. Select 6.TINT with the FUNCTION UP/DOWN key. 4. Set the initial setting value of NTSC 3.58 TINT with the FUNCTION - or + key. 5. Connect the oscilloscope between TP-47B and TP-E(+). 6. Adjust NTSC 3.58 TINT to bring the value of (B) in the illustration to +3V (voltage difference between white (W) and magenta (Mg)). 7. Press the MENU key and memorize the setting value. 
			NTSC 4.43 TINT	<p>[NTSC 4.43 TINT]</p> <ol style="list-style-type: none"> 1. When NTSC 3.58 is set, NTSC 4.43 will be automatically set at the respective values.

[Only AV-28WT4EN / AV-28WT4ENS]

Item	Measuring instrument	Test point	Adjustment part	Description
Adjustment of BLACK OFFSET (SECAM) I	Remote control unit		7. BLACK OFFSET (R-Y) *** (B-Y) ***	<p>[Method of adjustment without measuring instrument]</p> <ol style="list-style-type: none"> Receive a SECAM broadcast. Select 2. V/C from SERVICE MENU. Select 7. BLACK OFFSET with the FUNCTION UP/DOWN key. Set the initial setting value for BLACK OFFSET (R-Y) and (B-Y) with 4 and 7 or 6 and 9 keys of the remote control. If the picture is not the best with the initial setting value, make fine adjustment until you get the best picture. Press the MENU key and memorize the setting value. <p>REMOTE CONTROL UNIT</p>
Adjustment of BLACK OFFSET (SECAM) II	Signal generator Oscilloscope	35 PIN (R-Y) 36 PIN (B-Y) IC-101 ON MAIN PWB	7. BLACK OFFSET (R-Y) *** (B-Y) ***	<p>[Method of adjustment using measuring instrument]</p> <ol style="list-style-type: none"> Receive a SECAM COLOUR bar signal (full field colour bar 75% white). Select 2. V/C from SERVICE MENU. Select 7. BLACK OFFSET with the FUNCTION UP/DOWN key. Connect the oscilloscope between 35 pin of IC-101 and TP-E (↔). By using 4 and 7 keys of the remote control, adjust the BLACK OFFSET (R-Y) so that it becomes the waveform changes from (a) to (b) shown in the figure. Connect the oscilloscope between 36 pin of IC-101 and TP-E. By using 6 and 9 keys of the remote control, adjust the BLACK OFFSET (B-Y) so that it becomes the waveform changes from (c) to (d) shown in the figure. If the picture is not the best with the adjusted picture, make fine adjustment until you get the best picture. Press the MENU key and memorize the setting value. <p>[R-Y]</p> <p>[B-Y]</p>

DEFLECTION CIRCUIT ADJUSTMENT

There are 7 modes of the adjustment (1) 50Hz mode (①PANORAMIC ②FULL ③REGULAR ④14:9 ZOOM ⑤16:9 ZOOM ⑥16:9 ZOOM SUB TITLE), (2) 60Hz mode (each aspect mode) depending upon the kind of signals (vertical frequency 50Hz / 60Hz).

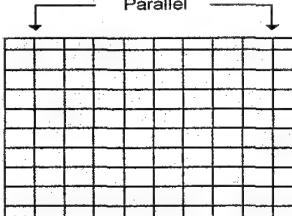
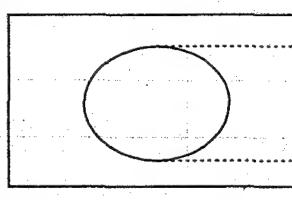
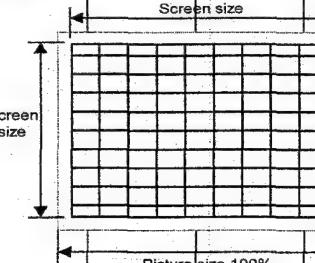
- The adjustment using the remote control unit is made on the basis of the initial setting values.
- When the 50Hz PANORAMIC mode has been established, the setting of other modes will be done automatically. However, if the picture quality has not been optimized, adjust each mode again, respectively.
- The setting values which adjust the screen to the optimum condition can be different from the initial setting values.

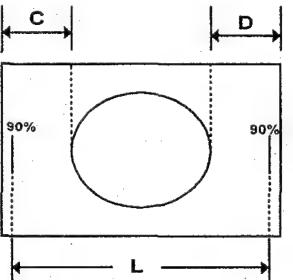
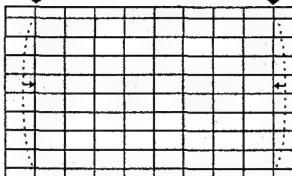
Initial setting value (1/2)

Setting item	Adjustment name	Initial setting value			
		50Hz mode			
		PANORAMIC	14:9 ZOOM	16:9 ZOOM	SUB TITLE
1.TRAPEZ	Trapezoidal distortion correction	-12	-1	-1	+2
2.V-SHIFT	Vertical center	+1	+0	-1	-16
3.V-SIZE	Vertical height	-10	+10	+25	+24
4.H-CENT	Horizontal center	-10	-10	-10	-10
5.H-SIZE	Horizontal width	+21	-13	-8	-7
6.EW-PIN	Side pin correction	-7	+0	+7	+2
7.V-S.CR	Vertical height correction	+5(Fixed)	-8(Fixed)	-15(Fixed)	-2(Fixed)
8.V-LIN	Vertical Linearity	+1	-1	-1	-7
9.V-EDGE	Vertical edge correction	+7	+0	+0	+0
10.EW-COR	Side pin four corner correction	+7	-1	-2	+1
11.ABL POINT	Auto beam limiter point	+0(Fixed)	+3(Fixed)	+0(Fixed)	+0(Fixed)
12.ABL GAIN	Auto beam limiter gain	+0(Fixed)	+2(Fixed)	+0(Fixed)	+0(Fixed)

Initial setting value (2/2)

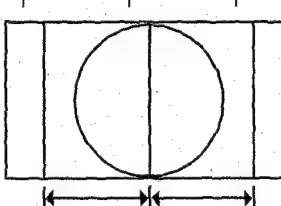
Setting item	Adjustment name	Initial setting value		
		50Hz mode		60Hz mode
		FULL	REGULAR	PANORAMIC
1.TRAPEZ	Trapezoidal distortion correction	+1	+0	-1
2.V-SHIFT	Vertical center	+0	+2	+5
3.V-SIZE	Vertical height	-9	-7	-2
4.H-CENT	Horizontal center	-10	-10	-6
5.H-SIZE	Horizontal width	-7	-21	+0
6.EW-PIN	Side pin correction	-7	-8	-1
7.V-S.CR	Vertical height correction	-3(Fixed)	-3(Fixed)	+0(Fixed)
8.V-LIN	Vertical Linearity	-1	-1	+0
9.V-EDGE	Vertical edge correction	+0	+0	+0
10.EW-COR	Side pin four corner correction	-6	-4	-3
11.ABL POINT	Auto beam limiter point	+0(Fixed)	+3(Fixed)	+0(Fixed)
12.ABL GAIN	Auto beam limiter gain	+0(Fixed)	+2(Fixed)	+0(Fixed)

Item	Measuring instrument	Test point	Adjustment part	Description																					
Adjustment of TRAPEZ	Signal generator Remote control unit		1.TRAPEZ	<p>[50Hz PANORAMIC mode]</p> <ol style="list-style-type: none"> Receive a cross-hatch signal of vertical frequency 50Hz. Select 4.DEF from the SERVICE MENU. Select 1.TRAPEZ with the FUNCTION UP/DOWN key. Set the initial setting value of TRAPEZ with the FUNCTION + key. Adjust TRAPEZ and bring the VERTICAL lines at the right and left edges of the screen parallel. 																					
Adjustment of V-SHIFT			2.V-SHIFT	<ol style="list-style-type: none"> Receive a circle pattern signal Select 2.V-SHIFT and set the initial setting value. Adjust V-SHIFT to make A = B. Press the MENU key and memorize the set value. 																					
Adjustment of V-SIZE			3.V. SIZE	<ol style="list-style-type: none"> Receive a cross-hatch signal. Select 3.V-SIZE and set the initial setting value. Adjust V-SIZE and make sure that the vertical screen size of the picture size is in the bellow table. Press the MENU key and memorize the set value. Input a NTSC VIDEO signal from the EXT terminal, and make sure that the vertical screen size of the each ASPECT mode is in the table below. Press the MENU key and memorize the set value.  <table border="1" data-bbox="191 1189 1081 1349"> <thead> <tr> <th>MODE</th> <th>PANORAMIC</th> <th>14:9 ZOOM</th> <th>16:9 ZOOM</th> <th>16:9 ZOOM SUB TITLE</th> <th>FULL</th> <th>REGULAR</th> </tr> </thead> <tbody> <tr> <td>SCREEN TOP</td> <td>87%</td> <td>80%</td> <td>70%</td> <td>70%</td> <td>92%</td> <td>92%</td> </tr> <tr> <td>SCREEN BOTTOM</td> <td>87%</td> <td>80%</td> <td>70%</td> <td>83%</td> <td>92%</td> <td>92%</td> </tr> </tbody> </table> <p>[SCREEN SIZE]</p>	MODE	PANORAMIC	14:9 ZOOM	16:9 ZOOM	16:9 ZOOM SUB TITLE	FULL	REGULAR	SCREEN TOP	87%	80%	70%	70%	92%	92%	SCREEN BOTTOM	87%	80%	70%	83%	92%	92%
MODE	PANORAMIC	14:9 ZOOM	16:9 ZOOM	16:9 ZOOM SUB TITLE	FULL	REGULAR																			
SCREEN TOP	87%	80%	70%	70%	92%	92%																			
SCREEN BOTTOM	87%	80%	70%	83%	92%	92%																			

Item	Measuring instrument	Test point	Adjustment part	Description
Adjustment of H.CENTER			4.H-CENT.	<ol style="list-style-type: none"> Receive a circle pattern signal. Select 4.H-CENT and set the initial setting value. Adjust H-CENT to make C=D. Press the MENU key and memorize the set value. 
Adjustment of H.SIZE			5.H-SIZE	<ol style="list-style-type: none"> Receive a cross-hatch signal. Select 5.H-SIZE and set the initial setting value. Adjust H-SIZE and make sure that the horizontal screen size of the picture size is in the bellow table. Press the MENU key and memorize the set value. <p>※The numeric of the REGULAR and 14:9 ZOOM modes are shown the length of the 90% horizontal size position(L) as shown in the figure above.</p> <ol style="list-style-type: none"> Input a NTSC VIDEO signal from the EXT terminal, and make sure that the horizontal screen size of the each ASPECT mode is in the below table. Press the MENU key and memorize the set value.
Adjustment of EW-PIN			6.EW-PIN	<ol style="list-style-type: none"> Select 6.EW-PIN and set the initial setting value. Adjust EW-PIN and make the 2nd.vertical lines at the left and right edges of the screen straight. Also make sure that the 3rd vertical lines are straight. Press the MENU key and memorize the set value. 

Item	Measuring instrument	Test point	Adjustment part	Description
Adjustment of V-S.CR			7.V-S.CR 8.V-LIN 9.V-EDGE	<p>★ No alignment, but adjust this mode if result of no alignment is too bad.</p> <p>29. Select 7.V-S.CR , 8.V-LIN and 9.V-EDGE and set the initial setting value.</p> <p>30. Adjust each item to get exact square of cross-hatch pattern.</p> <p>31. Press the MENU key and memorize the set value.</p>
Adjustment of EW-COR			10.EW-COR	<p>★ No alignment, but adjust this mode if result of no alignment is too bad.</p> <p>32. Select 10.EW-COR and set the initial setting value.</p> <p>33. Adjust EW-COR and make the vertical lines at the four corners of the screen straight.</p> <p>34. Press the MENU key and memorize the set value.</p>
				At first the adjustment in 50Hz-PANORAMIC mode should be done, then the data for the other zoom mode is corrected in the respective value at the same time. And confirm the deflection adjustment initial setting value in 60Hz(NTSC EXT mode) PANORAMIC mode. If the adjustment in 50Hz each zoom mode has been done and stored, the data for the same aspect modes in 60Hz is corrected in the respective value. Only the data for the other aspect mode in 60Hz is corrected for itself.

H. BLANKING ADJUSTMENT

Item	Measuring instrument	Test point	Adjustment part	Description
Adjustment of H.BLANKING			H.BLK Capacitor [On MAIN PWB]	<p>1. Receive the PAL circle pattern in REGULAR mode.</p> <p>2. Adjust the H.BLK capacitor to equalize widths H and H' as figure.</p> 

AUDIO CIRCUIT ADJUSTMENT

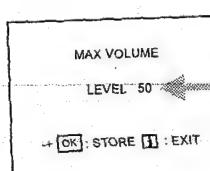
- Do not touch 3.AUDIO(1. CONC LIMIT, 2. A2 ID THR) of the SERVICE MENU as it requires no adjustment.

3. AUDIO

Setting item	Variable range	fixed value
1. CONC LIMIT(<i>Do not adjust</i>)	00H~FFH	0AH
2. A2 ID THR(<i>Do not adjust</i>)	00H~FFH	19H

SETTING of MAX VOLUME

- This model has a function that can set MAX VOLUME in the SERVICE MENU. (Do not adjust them under normal condition)

Item	Measuring instrument	Test point	Adjustment part	Description
Setting of MAX VOLUME	Remote Control unit		MAX VOLUME	<p>1. Select 8. MAX VOLUME from the SERVICE MENU.</p> <p>2. Set the setting value with the FUNCTION +/- key.</p> <p>3. Usually, set the value to LEVEL 50.</p> 

PARTS LIST

CAUTION

- The parts identified by the Δ symbol are important for the safety. Whenever replacing these parts, be sure to use specified ones to secure the safety.
- The parts not indicated in this Parts List and those which are filled with lines — in the Parts No. columns will not be supplied.
- P. W. Board Ass'y will not be supplied, but those which are filled with the Parts No. in the Parts No. columns will be supplied.

ABBREVIATIONS OF RESISTORS, CAPACITORS AND TOLERANCES

RESISTORS		CAPACITORS	
C R	Carbon Resistor	C CAP.	Ceramic Capacitor
F R	Fusible Resistor	E CAP.	Electrolytic Capacitor
P R	Plate Resistor	M CAP.	Mylar Capacitor
V R	Variable Resistor	HV CAP.	High Voltage Capacitor
H V R	High Voltage Resistor	MF CAP.	Metalized Film Capacitor
M F R	Metal Film Resistor	MM CAP.	Metalized Mylar Capacitor
M G R	Metal Glazed Resistor	MP CAP.	Metalized Polystyrol Capacitor
M P R	Metal Plate Resistor	PP CAP.	Polypropylene Capacitor
O M R	Metal Oxide Film Resistor	PS CAP.	Polystyrol Capacitor
C M F R	Coating Metal Film Resistor	TF CAP.	Thin Film Capacitor
U N F R	Non-Flammable Resistor	MPP CAP.	Metalized Polypropylene Capacitor
C H V R	Chip Variable Resistor	TAN. CAP.	Tantalum Capacitor
C H M G R	Chip Metal Glazed Resistor	CH C CAP.	Chip Ceramic Capacitor
C O M P. R	Composition Resistor	BP E CAP.	Bi-Polar Electrolytic Capacitor
L P T C R	Linear Positive Temperature Coefficient Resistor	CH AL E CAP.	Chip Aluminum Electrolytic Capacitor
		CH AL BP CAP.	Chip Aluminum Bi-Polar Capacitor
		CH TAN. E CAP.	Chip Tantalum Electrolytic Capacitor
		CH AL BP E CAP.	Chip Tantalum Bi-Polar Electrolytic Capacitor

TOLERANCES										
F	G	J	K	M	N	R	H	Z	P	
$\pm 1\%$	$\pm 2\%$	$\pm 5\%$	$\pm 10\%$	$\pm 20\%$	$\pm 30\%$	+30% -10%	+50% -10%	+80% -20%	+100% -0%	

AV-28WT4EK
AV-28WT4EKS
AV-28WT4EN
AV-28WT4ENS

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AV-28WT4EK
AV-28WT4EKS
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AV-28WT4ENS

USING PW BOARD & REMOTE CONTROL UNIT

PWB ASS'Y	Model	AV-28WT4EK	AV-28WT4EKS	AV-28WT4EN	AV-28WT4ENS
MAIN PWB	SJF-1923A-U2	←		SJF-1023A-U2	←
AUTO ASPECT MODULE PWB	SMC-W001A(U)	←	←	←	←
IF MODULE PWB	SJF0F021A-U2	←		SJF0F021A-U2	←
POWER / DEF PWB	SJF-2023A-U2	←	←	←	←
CRT SOCKET PWB	SJF-3022A-U2	←	←	←	←
FRONT CONTROL PWB	SJF-8023A-U2	←	←	←	←
AV TERMINAL PWB	SJF0J022A-U2	←	←	←	←
REMOTE CONTROL UNIT	RM-C794-1E	←		RM-C795-1E	←

AV-28WT4EK / AV-28WT4EKS

EXPLODED VIEW PARTS LIST

Ref. No.	Part No.	Part Name	Description	Local
AV-28WT4EK				
△ L01	QW0035-001	DEG COIL		
△ T2551	CETH019-00AJ1	H.V. TRANSF.	(SERVICE)	
△ V01	W66QBD590X03	CRT	(Inc.DY,PC,WED)	*
1	CHGB0029-0B	BRAIDED ASSY		*
2	CHGB0017-0B	BRAIDED SUB ASSY	(x2)	*
3	CM36311-001	KNOB CAP		*
4	CHFD125-06BD	FFC WIRE		*
5	CM12931-A01-E	CONTROL BASE		*
6	QYSBSB3012M	TAPPING SCREW		*
7	CM12930-C01-E	CHASSIS BASE		*
8	CM12924-C04-E	AV TERMINAL BASE		*
9	QYSBSB3012M	TAPPING SCREW	(x3)For AV TERMI BOARD	*
△ 10	AEEMP003-185A	POWER CORD		*
△ 11	CM46618-A01-E	POWER CORD CLAMP		*
△ 12	CM12582-A04-E	REAR COVER		*
13	QYSBSAG4016N	TAPPING SCREW	(x13)For R.COVER	*
△ 14	LC20091-005A-U	RATING LABEL		*
16	CEBSF10P-01KJ6	SPEAKER	(x2)SP01,SP02	*
17	2528MXSP-2SE	DOME SP ASSY	(x2)	*
18	CM36226-COA-H	SPEAKER NET	(x2)	*
100	CM12677-BOU-E	F CABINET ASSY	Inc.No.103~112	*
103	CM36223-001	LED LENS		*
105	CM35235-003-H	SPRING		*
106	CM36225-010-E	POWER KNOB	(SERVICE)	*
107	CM48125-001	JVC MARK		*
108	CM48229-00A	DOOR LATCH		*
109	CM36224-018-E	OPERATION SHEET		*
110	CM22898-015-E	DOOR	(SERVICE)	*
111	CM48076-A01	CDS WINDOW		*
112	CM35893-A01-E	CHASSIS RAIL	(x2)	*

AV-28WT4EKS

Ref. No.	Part No.	Part Name	Description	Local
AV-28WT4EKS				
△ L01	QW0035-001	DEG COIL		
△ T2551	CETH019-00AJ1	H.V. TRANSF.	(SERVICE)	
△ V01	W66QBD590X03	CRT	(Inc.DY,PC,WED)	*
1	CHGB0029-0B	BRAIDED ASSY		*
2	CHGB0017-0B	BRAIDED SUB ASSY	(x2)	*
3	CM36311-001	KNOB CAP		*
4	CHFD125-06BD	FFC WIRE		*
5	CM12931-A01-E	CONTROL BASE		*
6	QYSBSB3012M	TAPPING SCREW		*
7	CM12930-C01-E	CHASSIS BASE		*
8	CM12924-C04-E	AV TERMINAL BASE		*
9	QYSBSB3012M	TAPPING SCREW	(x3)For AV TERMI BOARD	*
△ 10	AEEMP003-185A	POWER CORD		*
△ 11	CM46618-A01-E	POWER CORD CLAMP		*
△ 12	CM12582-A04-E	REAR COVER		*
13	QYSBSAG4016N	TAPPING SCREW	(x13)For R.COVER	*
△ 14	LC20091-006A-U	RATING LABEL		*
16	CEBSF10P-01KJ6	SPEAKER	(x2)SP01,SP02	*
17	2528MXSP-2SE	DOME SP ASSY	(x2)	*
18	CM36226-00B-H	SP NET ASSY	(x2)	*
100	CM12677-BOV-E	F CABINET ASSY	Inc.No.103~112	*
103	CM36223-001	LED LENS		*
105	CM35235-003-H	SPRING		*
106	CM36225-011-E	POWER KNOB	(SERVICE)	*
107	CM48125-004	JVC MARK		*
108	CM48229-00A	DOOR LATCH		*
109	CM36224-018-E	OPERATION SHEET		*
110	CM22898-017-E	DOOR	(SERVICE)	*
111	CM48076-A01	CDS WINDOW		*
112	CM35893-A01-E	CHASSIS RAIL	(x2)	*

AV-28WT4EN / AV-28WT4ENS

EXPLODED VIEW PARTS LIST

Ref. No.	Part No.	Part Name	Description	Local
AV-28WT4EN				
△ L01	QW0035-001	DEG COIL		
△ T2551	CETH019-00AJ1	H.V. TRANSF.	(SERVICE)	
△ V01	W66QBD590X03	CRT	(Inc.DY,PC,WED)	*
1	CHGB0029-0B	BRAIDED ASSY		*
2	CHGB0017-0B	BRAIDED SUB ASSY	(x2)	*
3	CM36311-001	KNOB CAP		*
4	CHFD125-06BD	FFC WIRE		*
5	CM12931-A01-E	CONTROL BASE		*
6	QYSBSB3012M	TAPPING SCREW		*
7	CM12930-C01-E	CHASSIS BASE		*
8	CM12924-C04-E	AV TERMINAL BASE		*
9	QYSBSB3012M	TAPPING SCREW	(x3)For AV TERMI BOARD	*
△ 10	AEEMP001-185	POWER CORD		*
△ 11	CM46618-A01-E	POWER CORD CLAMP		*
△ 12	CM12582-A04-E	REAR COVER		*
13	QYSBSAG4016N	TAPPING SCREW	(x13)For R.COVER	*
△ 14	LC20092-011A-U	RATING LABEL	For ENG/GER/ITA	*
15	LC20093-011A-U	RATING LABEL	For ENG/ESP/FRA	*
16	CEBSF10P-01KJ6	SPEAKER	(x2)SP01,SP02	*
17	2528MXSP-2SE	DOME SP ASSY	(x2)	*
18	CM36226-COA-H	SPEAKER NET	(x2)	*
100	CM12677-BOV-E	F CABINET ASSY	Inc.No.103~112	*
103	CM36223-001	LED LENS		*
105	CM35235-003-H	SPRING		*
106	CM36225-010-E	POWER KNOB	(SERVICE)	*
107	CM48125-001	JVC MARK		*
108	CM48229-00A	DOOR LATCH		*
109	CM36224-018-E	OPERATION SHEET		*
110	CM22898-015-E	DOOR	(SERVICE)	*
111	CM48076-A01	CDS WINDOW		*
112	CM35893-A01-E	CHASSIS RAIL	(x2)	*

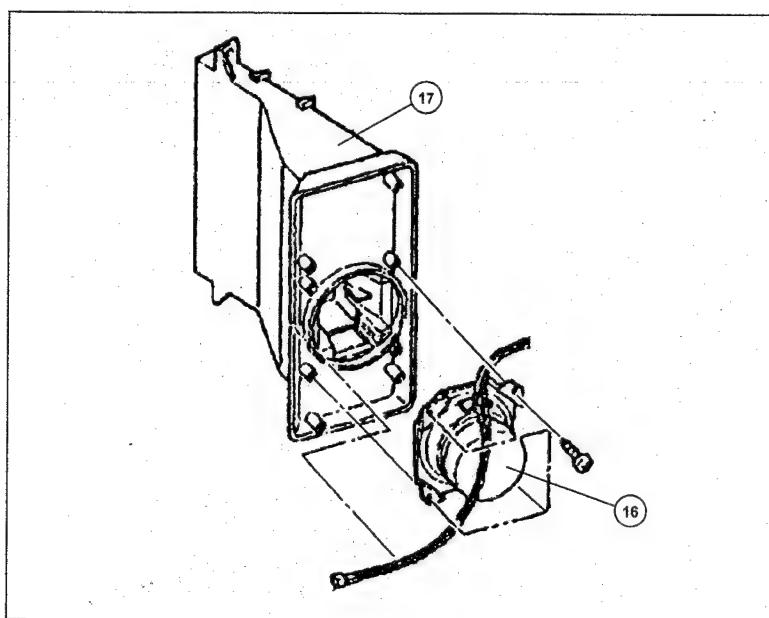
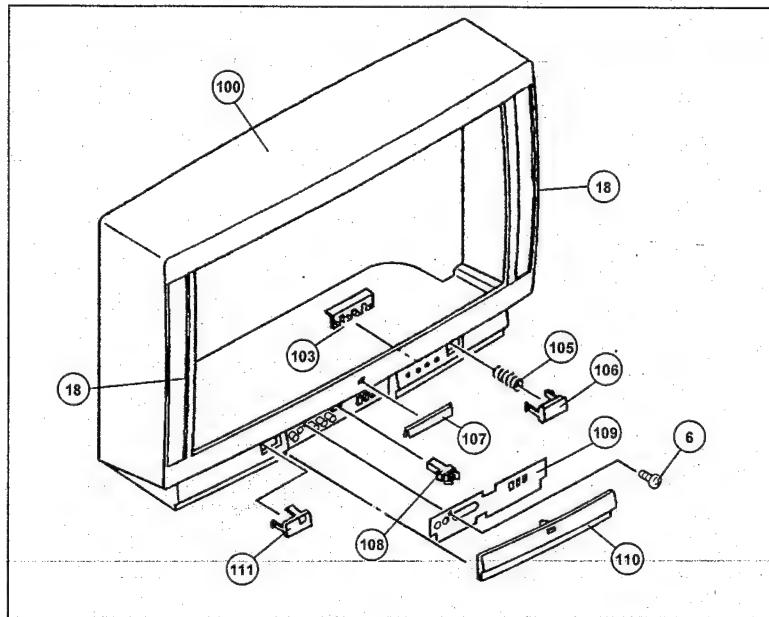
AV-28WT4ENS

Ref. No.	Part No.	Part Name	Description	Local
AV-28WT4ENS				
△ L01	QW0035-001	DEG COIL		
△ T2551	CETH019-00AJ1	H.V. TRANSF.	(SERVICE)	
△ V01	W66QBD590X03	CRT	(Inc.DY,PC,WED)	*
1	CHGB0029-0B	BRAIDED ASSY		*
2	CHGB0017-0B	BRAIDED SUB ASSY	(x2)	*
3	CM36311-001	KNOB CAP		*
4	CHFD125-06BD	FFC WIRE		*
5	CM12931-A01-E	CONTROL BASE		*
6	QYSBSB3012M	TAPPING SCREW		*
7	CM12930-C01-E	CHASSIS BASE		*
8	CM12924-C04-E	AV TERMINAL BASE		*
9	QYSBSB3012M	TAPPING SCREW	(x3)For AV TERMI BOARD	*
△ 10	AEEMP001-185	POWER CORD		*
△ 11	CM46618-A01-E	POWER CORD CLAMP		*
△ 12	CM12582-A04-E	REAR COVER		*
13	QYSBSAG4016N	TAPPING SCREW	(x13)For R.COVER	*
△ 14	LC20092-012A-U	RATING LABEL	For ENG/GER/ITA	*
15	LC20093-012A-U	RATING LABEL	For ENG/ESP/FRA	*
16	CEBSF10P-01KJ6	SPEAKER	(x2)SP01,SP02	*
17	2528MXSP-2SE	DOME SP ASSY	(x2)	*
18	CM36226-00B-H	SP NET ASSY	(x2)	*
100	CM12677-BOV-E	F CABINET ASSY	Inc.No.103~112	*
103	CM36223-001	LED LENS		*
105	CM35235-003-H	SPRING		*
106	CM36225-011-E	POWER KNOB	(SERVICE)	*
107	CM48125-004	JVC MARK		*
108	CM48229-00A	DOOR LATCH		*
109	CM36224-018-E	OPERATION SHEET		*
110	CM22898-017-E	DOOR	(SERVICE)	*
111	CM48076-A01	CDS WINDOW		*
112	CM35893-A01-E	CHASSIS RAIL	(x2)	*

AV-28WT4EK
AV-28WT4EKS
AV-28WT4EN
AV-28WT4ENS

AV-28WT4EK / AV-28WT4EKS / AV-28WT4EN / AV-28WT4ENS

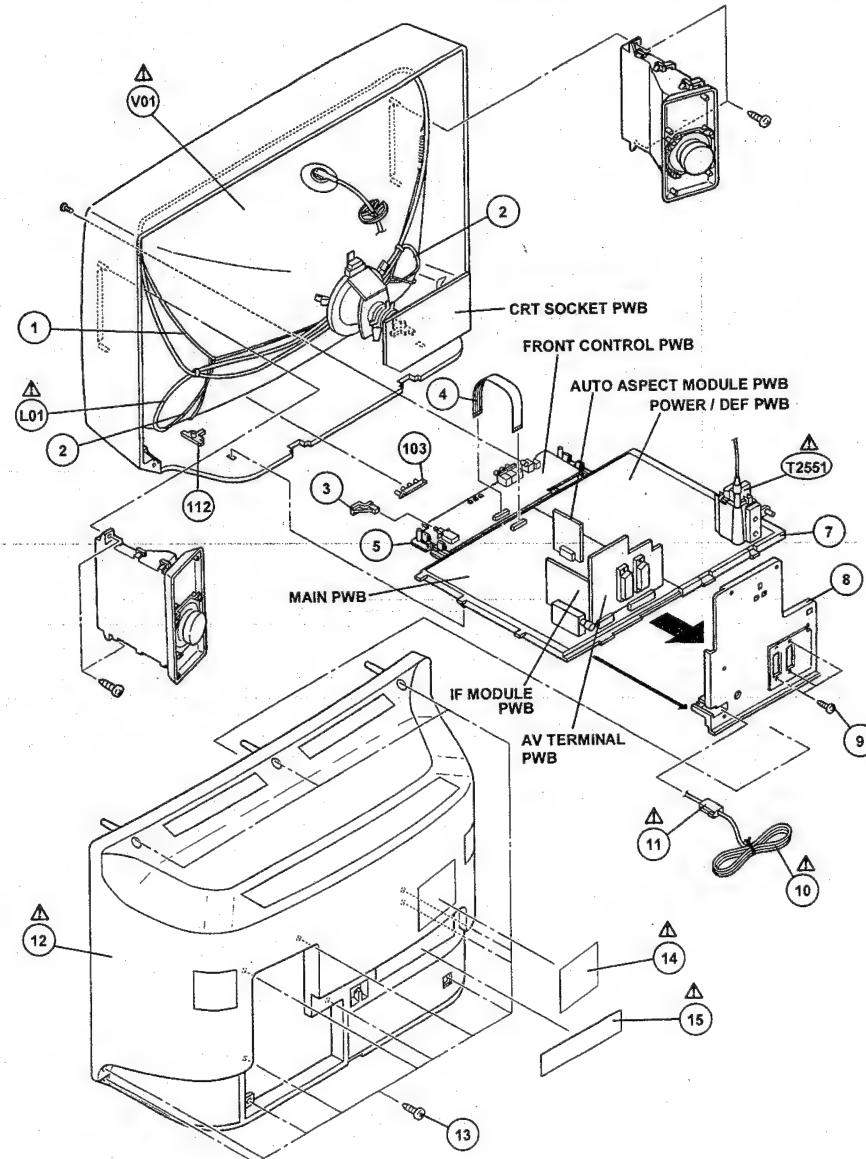
EXPLODED VIEW I



AV-28WT4EK
AV-28WT4EKS
AV-28WT4EN
AV-28WT4ENS

AV-28WT4EK / AV-28WT4EKS / AV-28WT4EN / AV-28WT4ENS

EXPLODED VIEW III



AV-28WT4EK / 28WT4EKS

PRINTED WIRING BOARD PARTS LIST

MAIN P.W. BOARD ASS'Y (SJF-1923A-U2)

Symbol No.	Part No.	Part Name	Description	Local
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RESISTOR

R1001	QRE141J-474X	C R	470kΩ 1/4W	J *
R1002	QRE141J-104Y	C R	100kΩ 1/4W	J *
R1003-06	QRE141J-102Y	C R	1kΩ 1/4W	J *
R1101-02	QRE141J-391Y	C R	390kΩ 1/4W	J *
R1103-04	QRE141J-102Y	C R	1kΩ 1/4W	J *
R1105	QRE141J-562Y	C R	5.6kΩ 1/4W	J *
R1106	QRE141J-102Y	C R	1kΩ 1/4W	J *
R1107	QRE141J-561Y	C R	5600Ω 1/4W	J *
R1108	QRE141J-224Y	C R	220kΩ 1/4W	J *
R1109	QRE141J-273Y	C R	27kΩ 1/4W	J *
R1110	QRE141J-103Y	C R	10kΩ 1/4W	J *
R1111	QRE141J-472Y	C R	4.7kΩ 1/4W	J *
R1112-14	QRE141J-101Y	C R	1000Ω 1/4W	J *
R1115-18	QRE141J-102Y	C R	1kΩ 1/4W	J *
R1119	QRE141J-333Y	C R	33kΩ 1/4W	J *
R1120	QRE141J-102Y	C R	1kΩ 1/4W	J *
R1121	QRE141J-472Y	C R	4.7kΩ 1/4W	J *
R1123	QRE141J-103Y	C R	10kΩ 1/4W	J *
R1165	QRE141J-102Y	C R	1kΩ 1/4W	J *
R1166	QRE141J-681Y	C R	6800Ω 1/4W	J *
R1167	QRE141J-123Y	C R	12kΩ 1/4W	J *
R1169	QRE141J-123Y	C R	12kΩ 1/4W	J *
R1172	QRE141J-561Y	C R	5600Ω 1/4W	J *
R1201	QRE141J-750Y	C R	750Ω 1/4W	J *
R1202	QRE141J-271X	C R	270kΩ 1/4W	J *
R1203	QRE141J-101Y	C R	1000Ω 1/4W	J *
R1204	QKG01GJ-101	OM R	1000Ω 1W	J *
R1205	QRE141J-101Y	C R	1000Ω 1/4W	J *
R1206	QRE141J-331Y	C R	3300Ω 1/4W	J *
R1208	QRE141J-472Y	C R	4.7kΩ 1/4W	J *
R1209	QRE141J-152Y	C R	1.5kΩ 1/4W	J *
R1210	QRE141J-101Y	C R	1000Ω 1/4W	J *
R1211	QRE141J-822Y	C R	8.2kΩ 1/4W	J *
R1212	QRE141J-101Y	C R	1000Ω 1/4W	J *
R1213	QRE141J-682Y	C R	6.8kΩ 1/4W	J *
R1214-15	QRE141J-471Y	C R	4700Ω 1/4W	J *
R1218-19	QRE141J-391Y	C R	3900Ω 1/4W	J *
R1220-21	QRE141J-103Y	C R	10kΩ 1/4W	J *
R1222	QRE141J-221Y	C R	220kΩ 1/4W	J *
R1223	QRE141J-750Y	C R	750Ω 1/4W	J *
R1224	QRE141J-331Y	C R	3300Ω 1/4W	J *
R1225	QRE141J-151Y	C R	1500Ω 1/4W	J *
R1226	QRE141J-101Y	C R	1000Ω 1/4W	J *
R1228	QRE141J-182Y	C R	1.8kΩ 1/4W	J *
R1229	QRE141J-273Y	C R	27kΩ 1/4W	J *
R1230	QRE141J-393Y	C R	39kΩ 1/4W	J *
R1231	QRE141J-182Y	C R	1.8kΩ 1/4W	J *
R1232	QKG01GJ-101	OM R	1000Ω 1W	J *
R1233-34	QRE141J-152Y	C R	1.5kΩ 1/4W	J *
R1235-36	QRE141J-103Y	C R	10kΩ 1/4W	J *
R1237-38	QRE141J-471Y	C R	4700Ω 1/4W	J *
R1242	QRE141J-323Y	C R	82kΩ 1/4W	J *
R1243	QRE141J-391Y	C R	3900Ω 1/4W	J *
R1245	QRE141J-823Y	C R	82kΩ 1/4W	J *
R1246	QRE141J-391Y	C R	3900Ω 1/4W	J *
R1247-48	QRE141J-103Y	C R	10kΩ 1/4W	J *
R1249	QRE141J-221Y	C R	220kΩ 1/4W	J *
R1252	RZ9017-470	FUSE,RESISTOR	47Ω 1/4W	J *
R1253	QRE141J-103Y	C R	10kΩ 1/4W	J *
R1254-55	QRE141J-333Y	C R	18kΩ 1/4W	J *
R1256	QRE141J-103Y	C R	10kΩ 1/4W	J *

Symbol No.	Part No.	Part Name	Description	Local
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RESISTOR

R1257	QRE141J-222Y	C R	2.2kΩ 1/4W	J *
R1260-61	QRE141J-750Y	C R	750Ω 1/4W	J *
R1262-63	QRE141J-101Y	C R	100Ω 1/4W	J *
R1264	QRE141J-561Y	C R	5600Ω 1/4W	J *
R1268	QRE141J-221Y	C R	220kΩ 1/4W	J *
R1401-02	QRE141J-103Y	C R	10kΩ 1/4W	J *
R1403	QRE141J-682Y	C R	6.8kΩ 1/4W	J *
R1404	QRE141J-183Y	C R	18kΩ 1/4W	J *
R1405	QRE141J-223Y	C R	22kΩ 1/4W	J *
R1406	QRE141J-102Y	C R	1kΩ 1/4W	J *
R1451	QRE141J-104Y	C R	100kΩ 1/4W	J *
R1452	QRE141J-153Y	C R	15kΩ 1/4W	J *
R1453	QRE141J-333Y	C R	33kΩ 1/4W	J *
R1455	QRE141J-184Y	C R	180kΩ 1/4W	J *
R1456	QRE141J-562Y	C R	5.6kΩ 1/4W	J *
R1457	QRE141J-223Y	C R	22kΩ 1/4W	J *
R1458	QRE141J-104Y	C R	100kΩ 1/4W	J *
R1501	QRE141J-621Y	C R	620Ω 1/4W	J *
R1503	QRE141J-103Y	C R	10kΩ 1/4W	J *
R1504	QRE141J-104Y	C R	100kΩ 1/4W	J *
R1506	QRE141J-103Y	C R	10kΩ 1/4W	J *
R1508	QRE141J-682Y	C R	6.8kΩ 1/4W	J *
R1509	QRE141J-123Y	C R	12kΩ 1/4W	J *
R1510	QRE141J-392Y	C R	3.9kΩ 1/4W	J *
R1511	QRE141J-392Y	C R	3.9kΩ 1/4W	J *
R1601-02	QRE141J-102Y	C R	1kΩ 1/4W	J *
R1603	QRE141J-182Y	C R	1.8kΩ 1/4W	J *
R1604	QRE141J-333Y	C R	33kΩ 1/4W	J *
R1605	QRE141J-182Y	C R	1.8kΩ 1/4W	J *
R1606	QRE141J-333Y	C R	33kΩ 1/4W	J *
R1607-08	QRE141J-103Y	C R	10kΩ 1/4W	J *
R1608-02	QRE141J-101Y	C R	100Ω 1/4W	J *
R1609-02	QRE141J-102Y	C R	10kΩ 1/4W	J *
R1610-02	QRE141J-103Y	C R	10kΩ 1/4W	J *
R1611-02	QRE141J-104Y	C R	10kΩ 1/4W	J *
R1612-02	QRE141J-105Y	C R	10kΩ 1/4W	J *
R1613	QRE141J-122Y	C R	1.2kΩ 1/4W	J *
R1633-34	QRE141J-104Y	C R	100kΩ 1/4W	J *
R1701	RZ9049J-472	NET.R	4.7kΩ *	
R1702	QKG069J-103	NET.R	100Ω *	
R1703-04	QRE141J-102Y	C R	1kΩ 1/4W	J *
R1705	QRE141J-331Y	C R	3300Ω 1/4W	J *
R1706	QRE141J-102Y	C R	1kΩ 1/4W	J *
R1707	QRE141J-331Y	C R	3300Ω 1/4W	J *
R1708	QRE141J-274Y	C R	270kΩ 1/4W	J *
R1709-12	QRE141J-103Y	C R	10kΩ 1/4W	J *
R1713-20	QRE141J-102Y	C R	1kΩ 1/4W	J *
R1721	QRE141J-104Y	C R	100kΩ 1/4W	J *
R1722	QRE141J-221Y	C R	220kΩ 1/4W	J *
R1723	QRE141J-101Y	C R	1000Ω 1/4W	J *
R1724-29	QRE141J-102Y	C R	1kΩ 1/4W	J *
R1730-34	QRE141J-472Y	C R	4.7kΩ 1/4W	J *
R1735-37	QRE141J-152Y	C R	1.5kΩ 1/4W	J *
R1738	QRE141J-563Y	C R	56kΩ 1/4W	J *
R1739	QRE141J-562Y	C R	5.6kΩ 1/4W	J *
R1740	QRE141J-103Y	C R	10kΩ 1/4W	J *
R1741	QRE141J-223Y	C R	22kΩ 1/4W	J *
R1742	QRE141J-153Y	C R	15kΩ 1/4W	J *
R1743	QRE141J-103Y	C R	10kΩ 1/4W	J *
R1744	QRE141J-562Y	C R	5.6kΩ 1/4W	J *
R1745	QRE141J-103Y	C R	10kΩ 1/4W	J *

Symbol No.	Part No.	Part Name	Description	Local
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RESISTOR

R1746	QRE141J-682Y	C R	6.8kΩ 1/4W	J *
R1747	QRE141J-823Y	C R	82kΩ 1/4W	J *
R1748	QRE141J-104Y	C R	100kΩ 1/4W	J *
R1749	QRE141J-682Y	C R	6.8kΩ 1/4W	J *
R1750	QRE141J-102Y	C R	10kΩ 1/4W	J *
R1760	QRE141J-472Y	C R	4.7kΩ 1/4W	J *
R1761	QRE141J-102Y	C R	10kΩ 1/4W	J *
R1762-64	QRE141J-102Y	C R	1kΩ 1/4W	J *
R1765	QRE141J-104Y	C R	100kΩ 1/4W	J *
R1767	QRE141J-473Y	C R	47kΩ 1/4W	J *
R1770	QRE141J-222Y	C R	1.2kΩ 1/4W	J *
R1772-73	QRE141J-102Y	C R	1kΩ 1/4W	J *
R1781-82	QRE141J-102Y	C R	1kΩ 1/4W	J *
R1783-84	QRE141J-221Y	C R	220kΩ 1/4W	J *
R1785-87	QRE141J-102Y	C R	1kΩ 1/4W	J *
R1789	QRE141J-102Y	C R	1kΩ 1/4W	J *
R1790	QRE141J-393Y	C R	39kΩ 1/4W	J *
R1791-92	QKG049J-103	NET.R	10kΩ *	
R1793	QRE141J-562Y	C R	5.6kΩ 1/4W	J *
R1794-95	QRE141J-102Y	C R	1kΩ 1/4W	J *
R1801-03	QRE141J-102Y	C R	220kΩ 1/4W	J *
R1804	QRE141J-681Y	C R	6800Ω 1/4W	J *
R1805	QRE141J-102Y	C R	1kΩ 1/4W	J *
R1808-07	QRE141J-333Y	C R	33kΩ 1/4W	J *
R1811	QRE141J-323Y	C R	3.3kΩ 1/4W	J *
R1812	QRE141J-822Y	C R	8.2kΩ 1/4W	J *
R1813	QRE141J-221Y	C R	220kΩ 1/4W	J *
R1814	QRE141J-391Y	C R	39kΩ 1/4W	J *
R1815	QRE141J-122Y	C R	1.2kΩ 1/4W	J *
R1819	QRE141J-333Y	C R	33kΩ 1/4W	J *
R1820-33	QRE141J-102Y	C R	1kΩ 1/4W	J *
R1821	QRE141J-102Y	C R	1kΩ 1/4W	J *
R1823	QRE141J-561Y	C R	5600Ω 1/4W	J *
R1824	QRE141J-271Y	C R	270kΩ 1/4W	J *
R1825	QRE141J-561Y	C R	5.6kΩ 1/4W	J *
R1826	QRE141J-211Y	C R	210kΩ 1/4W	J *
R1827	QRE141J-561Y	C R	5600Ω 1/4W	J *
R1828	QRE141J-211Y	C R	210kΩ 1/4W	J *
R1829	QRE141J-104Y	C R	100kΩ 1/4W	J *
R1830	QRE141J-104Y	C R	100kΩ 1/4W	J *
R1831	QRE141J-104Y	C R	100kΩ 1/4W	J *
R1832	QRE141J-104Y	C R	100kΩ 1/4W	J *
R1833	QRE141J-104Y	C R	100kΩ 1/4W	J *
R1834	QRE141J-104Y	C R	100kΩ 1/4W	J *
R1835	QRE141J-104Y	C R	100kΩ 1/4W	J *
R1836	QRE141J-104Y	C R	100kΩ 1/4W	J *
R1837	QRE141J-104Y	C R	100kΩ 1/4W	J *
R1838	QRE141J-104Y	C R	100kΩ 1/4W	J *
R1839	QRE141J-104Y	C R	100kΩ 1/4W	J *
R1840	QRE141J-104Y	C R	100kΩ 1/4W	J *
R1841	QRE141J-104Y	C R	100kΩ 1/4W	J *
R1842	QRE141J-104Y	C R	100kΩ 1/4W	J *
R1843	QRE141J-104Y	C R	100kΩ 1/4W	J *
R1844	QRE141J-104Y	C R	100kΩ 1/4W	J *
R1845	QRE141J-104Y	C R	100kΩ 1/4W	J *
R1846	QRE141J-104Y	C R	100kΩ 1/4W	J *
R1847	QRE141J-104Y	C R	10	

△ Symbol No. Part No. Part Name Description Local

CAPACITOR

C1656-97	QETN1CH-476Z	E CAP.	47μF 16V M	*
C1658	QETN1CH-2272	E CAP.	220μF 16V M	*
C1701	QETN1CH-1082	E CAP.	1000μF 16V M	*
C1702	QZC0120-1042	C CAP.	0.1μF 25V Z	*
C1703	QETN1HM-1062	E CAP.	10μF 50V M	*
C1704	QETN1HM-2272	E CAP.	220μF 10V M	*
C1705	QZC0210-1042	C CAP.	0.1μF 25V Z	*
C1706	QFLC1H-683Z	M CAP.	0.068μF 50V J	*
C1707	QETN1HM-1052	E CAP.	1μF 50V M	*
C1709	QZC31HJ-1802	C CAP.	18μF 50V J	*
C1711	QZC1020-1042	C CAP.	0.1μF 25V Z	*
C1712	QETN1HM-1072	E CAP.	100μF 10V M	*
C1713	QZC31HJ-2202	C CAP.	22μF 50V J	*
C1714	QZC31HJ-1032	C CAP.	0.01μF 50V K	*
C1715	QFLC1H-333Z	M CAP.	0.033μF 50V J	*
C1716	QFV71HJ-1042	MF CAP.	0.1μF 50V J	*
C1718	QZC31HJ-1802	C CAP.	18μF 50V J	*
C1720	QZC31HJ-1022	C CAP.	1000μF 50V K	*
C1721	QZC31HJ-4722	C CAP.	4700μF 50V K	*
C1723	QENC1HM-1052	BP E CAP.	1μF 50V M	*
C1761	QETN1CH-226	E CAP.	2200μF 16V M	*
C1767	QZC31HJ-1512	C CAP.	150μF 50V J	*
C1781	QZC1020-1042	C CAP.	0.1μF 25V Z	*
C1807	QETN1CH-476Z	E CAP.	47μF 16V M	*
C1809	QETN1HM-1062	E CAP.	10μF 50V M	*
C1811	QETN1HM-1062	E CAP.	10μF 50V M	*
C1812	QETN1CH-1072	E CAP.	100μF 16V M	*
C1813	QETN1HM-1062	E CAP.	50μF 50V M	*
C1814-15	QZC31HJ-1032	C CAP.	0.01μF 50V K	*
C1816	QEN1HM-2262	E CAP.	22μF 50V M	*
C1817	QZC31HJ-1032	C CAP.	0.01μF 50V K	*
C1818	QFLC1H-2232	M CAP.	0.022μF 50V J	*
C1819	QZC31HJ-2212	C CAP.	220μF 50V K	*
C1820-21	QZC31HJ-1502	C CAP.	15μF 50V J	*
C1822	QFV71HJ-1042	MF CAP.	0.1μF 50V J	*
C1823-24	QZC31HJ-1022	C CAP.	1000μF 50V K	*
C1825	QZC31HJ-2212	C CAP.	220μF 50V K	*
C1826	QZC1020-1042	C CAP.	0.1μF 25V Z	*
C1827	QETN1HM-4772	E CAP.	470μF 10V M	*
C1828	QZC1020-1042	C CAP.	0.1μF 25V Z	*
C1829	QFV71HJ-1042	MF CAP.	0.1μF 50V J	*
C1854-65	QETN1HM-1052	E CAP.	1μF 50V M	*
C1865	QETN1CH-476Z	E CAP.	47μF 16V M	*
C1904	QETN1HM-226	E CAP.	2200μF 50V M	*
C1906	QETN1HM-1072	E CAP.	100μF 16V M	*

COIL

L1001	QQL01BK-270Z	COIL	27μH	*
L1002-04	QQL01BK-8R2Z	COIL	8.2μH	*
L1005	QQL01BK-586Z	COIL	5.6μH	*
L1001-02	QQL01BK-4R7Z	COIL	4.7μH	*
L1104	QQL01BK-4R7Z	COIL	4.7μH	*
L1161	QQL01BK-180Z	COIL	18μH	*
L1162	QQL01BK-220Z	COIL	22μH	*
L1601-02	CELC005-7R5Z	CHOKE COIL	*	*
L1603	QQL01BK-100Z	COIL	10μH	*
L1701-02	QQL01BK-4R7Z	COIL	4.7μH	*
L1801	QQL01BK-3R3Z	COIL	3.3μH	*
L1802	QQL01BK-4R7Z	COIL	4.7μH	*

DIODE

DI101	15S133-T2	SI. DIODE	*
DI102-03	MT2J10A-T2	ZENER DIODE	*
DI104-06	15S133-T2	SI. DIODE	*
DI201	MT2J1A.7A-T2	ZENER DIODE	*

△ Symbol No. Part No. Part Name Description Local

DIODE

D1202-03	15S133-T2	SI. DIODE	*
D1204	MT2J10A-T2	ZENER DIODE	*
D1205-06	MT2J15A-T2	ZENER DIODE	*
D1453	15S133-T2	SI. DIODE	*
D1501-02	15S133-T2	SI. DIODE	*
D1611-12	MT2J33A-T2	ZENER DIODE	*
D1701-02	MA70DA-T2	SI. DIODE	*
D1703	MT2J3.6A-T2	ZENER DIODE	*
D1711	15S133-T2	SI. DIODE	*
D1714	15S133-T2	SI. DIODE	*
D1761	15S133-T2	SI. DIODE	*
D1765	15S146-T2	SI. DIODE	*
D1766	15S133-T2	SI. DIODE	*
D1767-68	MT2J15A-T2	ZENER DIODE	*
D1801-02	15S133-T2	SI. DIODE	*
D1862-63	MT2J15B-T2	ZENER DIODE	*
D1901	ROB.2E5/B2-T2	ZENER DIODE	*
D1964	MT2J5.1B-T2	ZENER DIODE	*

TRANSISTOR

Q1101	2SC1015/YG/-T	SI. TRANSISTOR	*
Q1102	2SC1815/YG/-T	SI. TRANSISTOR	*
Q1163	2SC1815/YG/-T	SI. TRANSISTOR	*
Q201-02	2SC1815/YG/-T	SI. TRANSISTOR	*
Q203	2SC1015/YG/-T	SI. TRANSISTOR	*
Q204-05	DTC323TS-T	DIGI. TRANSISTOR	*
Q206	2SC1815/YG/-T	SI. TRANSISTOR	*
Q207	2SC1015/YG/-T	SI. TRANSISTOR	*
Q208-09	2SC1815/YG/-T	SI. TRANSISTOR	*
Q210-11	DTC323TS-T	DIGI. TRANSISTOR	*
Q212	2SC1815/YG/-T	SI. TRANSISTOR	*
Q214-15	DTC323TS-T	DIGI. TRANSISTOR	*
Q1451	DTC124ES-T	DIGI. TRANSISTOR	*
Q1452	2SC1815/YG/-T	SI. TRANSISTOR	*
Q1501	2SC1815/YG/-T	SI. TRANSISTOR	*
Q1502	2SC1015/YG/-T	SI. TRANSISTOR	*
Q1701-02	2SC1815/YG/-T	SI. TRANSISTOR	*
Q1703	DTC14E5A-T	DIGI. TRANSISTOR	*
Q1761	DTC14E5-T	DIGI. TRANSISTOR	*
Q1762	2SC1015/YG/-T	SI. TRANSISTOR	*
Q1763-64	DTC323TS-T	DIGI. TRANSISTOR	*
Q1801	2SC1015/YG/-T	SI. TRANSISTOR	*
Q1802	DTC124ES-T	DIGI. TRANSISTOR	*
Q1806-07	2SC1815/YG/-T	SI. TRANSISTOR	*

I C

IC1101	TB1227AN	I.C. (DIGI-OTHER)	*
IC1201	TEA4616	I.C. (MONO-ANA)	*
IC1451	MC14538BCP	I.C. (DIGI-MOS)	*
IC1601	H5P3410B-PF-F7	I.C. (DIGI-OTHER)	*
IC1602	B44558	I.C. (MONO-ANA)	*
IC1611	TD47263M	I.C. (MONO-ANA)	*
IC1701	H37271M-252SP	I.C.	*
IC1702	L78L05E-MA	I.C. (MONO-ANA)	*
IC1703	AT74C1628BT4EN	I.C. (SERVICE)	*
IC1781	JLC15628H	I.C. (DIGI-MOS)	*
IC1801	TC40538P/N	I.C.	*
IC1802	CF70206	I.C. (DIGI-MOS)	*
IC1803	CF72417	I.C. (DIGI-MOS)	*

OTHERS

CN1001	QGF1216C1-25	FFC CONNECTOR	*
CN1009	QGB2004P2-25	HFQ PLUG	*

△ Symbol No. Part No. Part Name Description Local

OTHERS

FF1601-02	CE42142-103Z	EMI FILTER	*
K1001-04	C641433-001Z	BEADS CORE	*
TU1001	C6E380-B01	TUNER	*
X1101	QAX0305-001Z	CRYSTAL	*
X1601	CE4246-001Z	CRYSTAL	*
X1701	C5T8.00MTW	CER. RESONATOR	*
X1801	CE4125-001Z	CRYSTAL	*

AUTO ASPECT MODULE P.W. BOARD ASS'Y

(SMC-W001A(U))

△ Symbol No. Part No. Part Name Description Local

ND001 SMC-W001A(U) AUTO ASPECT MODULE PMB

△ Symbol No. Part No. Part Name Description Local

HD1003 SJF0921A-U2 IF MODULE PMB

POWER / DEF P.W. BOARD ASS'Y

(SJF-2023A-U2)

△ Symbol No. Part No. Part Name Description Local

RESISTOR

R2407	08A14CF-392Y	MF R	3.92KΩ 1/4W F
R2409	08E141-331Y	C R	33KΩ 1/4W J
R2411	08E141-101Y	C R	100Ω 1/4W J
R2412	08E141-471Y	C R	4700Ω 1/4W J
R2413	08E141-103Y	C R	10KΩ 1/4W J
R2414	08R016J-2R2	MF R	2.2Ω 1/4W J
R2415	08E141-103Y	C R	10KΩ 1/4W J
R2416	08E141-103Y	C R	10KΩ 1/4W J
R2417	08G016J-221	ON R	220Ω 1/4W J
R2418	08E141-180Y	C R	1.0Ω 1/4W J
R2421	08E141-272Y	C R	2.7KΩ 1/4W J
R2422	08E141-563Y	C R	56KΩ 1/4W J
R2423	08E141-104Y	C R	100KΩ 1/4W J
R2424	08E141-103Y	C R	10KΩ 1/4W J
R2425	08E141-124Y	C R	120KΩ 1/4W J
R2452	08E141-683Y	C R	68KΩ 1/4W J
R2453	08E141-224Y	C R	220Ω 1/4W J
R2461	08E141-102Y	C R	1KΩ 1/4W J
R2462	08E141-183Y	C R	18KΩ 1/4W J
R2463-64	08E141-211Y	C R	200Ω 1/4W J
R2465	08E141-331Y	C R	330Ω 1/4W J
R2466	08E141-2R2X	C R	2.2Ω 1/4W J
R2467	08E141-82Y	C R	8.2KΩ 1/4W J
R2468	08E141-272Y	C R	2.7KΩ 1/4W J

△ Symbol No. Part No. Part Name Description Local

R2469 QRE141J-222Y C R 2.2KΩ 1/4W J

R2470 QRE141J-472Y C R 4.7KΩ 1/4W J

R2471 QRE141J-102Y C R 1KΩ 1/4W J

R2472 QRE141J-333Y C R 33KΩ 1/4W J

R2474 QRE14CF-620LY MF R 6.2KΩ 1/4W F

R2475 QRE141J-102Y C R 1KΩ 1/4W J

R2476 QRE141J-562Y C R 5.6KΩ 1/4W J

R2478 QRE14CF-2102Y MF R 12KΩ 1/4W F

R2480 QRE141J-202Y C R 10KΩ 1/4W J

R2481 QRE141J-102Y C R 12KΩ 1/4W F

R2482 QRE141CF-6801Y MF R 6.8KΩ 1/4W F

R2483 QRE141J-183Y C R 18KΩ 1/4W J

R2484 QRE141J-103Y C R 10KΩ 1/4W J

R2485 QRE141

Symbol No.	Part No.	Part Name	Description	Local
CAPACITOR				
R2920	QRE141J-682Y	C R	6.8k Ω 1/4W J *	
R2921	QRE141J-224Y	C R	220k Ω 1/4W J *	
R2931	QRE121J-331Y	C R	330 μ F 1/2W J *	
R2951	QRF074J-102	UNF R	1k Ω 7W J *	
R2953	QRG016J-330	OM R	330 μ F 1W J *	
R2954	QRL029J-120	OM R	120 μ F 2W J *	
R2955	QRL029J-100	OM R	100 μ F 2W J *	
R2956	QRE141J-103Y	C R	10k Ω 1/4W J *	
R2957	QRE141J-473Y	C R	47k Ω 1/4W J *	
R2958	QRL029J-473	OM R	47k Ω 2W J *	
R2959	QRE141J-562Y	C R	5.6k Ω 1/4W J *	
R2967	QRG039J-223	OM R	22k Ω 2W J *	
R2968	QRE141J-102Y	C R	1k Ω 1/4W J *	
R2969	QRE141J-220Y	C R	220 μ F 1/4W J *	
R2970	QRE141J-153Y	C R	15k Ω 1/4W J *	
R2971	QRE141J-470Y	C R	47k Ω 1/4W J *	
R2972	QRE141J-183Y	C R	18k Ω 1/4W J *	
R2981	QRE121J-101Y	C R	100 Ω 1/2W J *	
R2982	QRE141J-122Y	C R	1.2k Ω 1/4W J *	
R2983	QRE141J-104Y	C R	100k Ω 1/4W J *	
R2984	QRE141J-102Y	C R	1k Ω 1/4W J *	
R2985	QRE141J-104Y	C R	100k Ω 1/4W J *	
R2986	QRE141J-103Y	C R	10k Ω 1/4W J *	
△ R2991	QRZ0057-825	C R	8.2M Ω 1W J *	
C2401	QETN1CH-107Z	E CAP.	100 μ F 16V M *	
C2402	QFLC1HJ-152Z	E CAP.	1500 μ F 50V J *	
C2403	QETB1W-108	E CAP.	1000 μ F 35V M *	
C2404	QETN1HM-107Z	E CAP.	100 μ F 35V M *	
C2405	QETN1HM-105Z	E CAP.	1 μ F 50V M *	
C2406	QCS32HJ-180Z	C CAP.	180 μ F 50V J *	
C2407-08	QFLC1HJ-104Z	M CAP.	0.1 μ F 50V J *	
C2409	QFLC2AJ-393Z	M CAP.	0.039 μ F 100V J *	
C2410	QFLC2AJ-563Z	M CAP.	0.056 μ F 100V J *	
C2411-12	QCB31HK-221Z	C CAP.	220 μ F 50V K *	
C2413	QFV2HJ-154Z	MF CAP.	0.15 μ F 50V J *	
C2415	QETN1HM-106Z	E CAP.	10 μ F 50V M *	
C2451	QCS31HJ-580Z	C CAP.	680 μ F 50V J *	
C2452	QETN1CH-121Z	C CAP.	120 μ F 50V J *	
C2453	QETN1CH-107Z	E CAP.	100 μ F 16V M *	
C2462	QFP31Hg-273	PP CAP.	0.027 μ F 50V G *	
C2463	QEH61EK-225Z	E CAP.	2.2 μ F 25V K *	
C2464	QFV7HJ-184Z	MF CAP.	0.18 μ F 50V J *	
C2465	QFV7HJ-932Z	MF CAP.	0.082 μ F 50V J *	
C2466	QETN1CH-198Z	E CAP.	1000 μ F 16V M *	
C2467	QZC0120-104Z	C CAP.	0.1 μ F 25V Z *	
C2468	QFLC1HJ-103Z	M CAP.	0.01 μ F 50V J *	
C2469	QFLC1HJ-393Z	M CAP.	0.039 μ F 50V J *	
C2470	QEN61HK-475Z	E CAP.	4.7 μ F 50V K *	
C2480	QFLC1HJ-272Z	M CAP.	0.027 μ F 50V J *	
C2481	QETN1HM-106Z	E CAP.	10 μ F 50V M *	
C2482	QETN1HM-105Z	E CAP.	1 μ F 50V M *	
C2483	QCB31HK-103Z	C CAP.	0.01 μ F 50V K *	
C2484	QFLC1HJ-123Z	M CAP.	0.012 μ F 50V J *	
C2485	QZC0120-104Z	C CAP.	0.1 μ F 25V Z *	
C2486	QETN1CH-227Z	E CAP.	220 μ F 16V M *	
C2509	QCB32HK-102Z	C CAP.	1000 μ F 500V K *	
C2510	QEH62CM-105Z	E CAP.	1 μ F 160V M *	
△ C2521	QFZ0122-372	MPP CAP.	2700 μ F 1.8kV \pm 3%	
△ C2522	QFZ0117-130Z	MPP CAP.	0.013 μ F 1.4kV \pm 2.5%	
△ C2523	QFP32GJ-773	PP CAP.	0.027 μ F 400V J *	
△ C2524-25	QFZ0119-524	MPP CAP.	0.62 μ F 200V \pm 3%	
C2526	QETN2EM-475Z	E CAP.	4.7 μ F 25V M *	
C2527	QCB32HK-561Z	C CAP.	560 μ F 500V K *	
C2528	QETN1CH-227	E CAP.	220 μ F 160V M *	
△ C2529	QFZ0128-393	MPP CAP.	0.039 μ F 400V \pm 3%	
△ C2531	QFZ0119-224	MPP CAP.	0.22 μ F 200V \pm 3%	
△ C2532	QFZ0119-354	MPP CAP.	0.35 μ F 200V \pm 3%	
C2534	QFM720K-583	M CAP.	0.068 μ F 200V K *	

Symbol No.	Part No.	Part Name	Description	Local
CAPACITOR				
C2536	QFLC1HJ-122Z	M CAP.	1200 μ F 50V J *	
C2553-54	QETN1EM-108Z	E CAP.	100 μ F 25V M *	
C2555	QETN2EM-106Z	E CAP.	10 μ F 250V M *	
C2556	QFV7HJ-104Z	MF CAP.	0.1 μ F 50V J *	
C2561	QCS31HJ-560Z	C CAP.	56 μ F 50V J *	
C2571	QETC01M-107Z	E CAP.	100 μ F 6.3V M *	
C2572	QETN1CH-476Z	E CAP.	47 μ F 16V M *	
C2581	QETN1AH-227Z	E CAP.	220 μ F 10V M *	
C2582	QETN2AH-106Z	E CAP.	10 μ F 100V M *	
C2583	QEN1EN-105Z	BP E CAP.	1 μ F 50V M *	
△ C2902	QZP086-472	C CAP.	4700 μ F AC250V M *	
△ C2904	QZP086-472	C CAP.	4700 μ F AC250V M *	
△ C2905	QE0167-227	E CAP.	220 μ F 38V M *	
△ C2907	QCB32HK-103	C CAP.	0.01 μ F 500V K *	
C2908	QZC0122-391	C CAP.	390 μ F 2000V K *	
C2910	QZC0122-151	C CAP.	150 μ F 2000V K *	
C2911	QZC0122-221	C CAP.	220 μ F 2000V K *	
C2915	QETN1EM-107Z	E CAP.	100 μ F 25V N *	
C2916	QCS31HJ-101Z	C CAP.	100 μ F 50V J *	
C2917	QFLC1HJ-102Z	M CAP.	100 μ F 50V J *	
C2918	QFLC1HJ-104Z	M CAP.	0.1 μ F 50V J *	
C2919	QCB31HK-102Z	C CAP.	100 μ F 50V K *	
C2920	QETN1HM-105Z	E CAP.	1 μ F 50V M *	
C2921	QFLC1HJ-392Z	M CAP.	3900 μ F 50V J *	
△ C2934	QFZ040-473	MH CAP.	0.047 μ F AC250V M *	
C2951	QZC0122-221	C CAP.	220 μ F 2000V K *	
C2952-53	QZC0132-102Z	C CAP.	1000 μ F 500V K *	
C2954	QCS31HJ-101Z	C CAP.	100 μ F 500V J *	
C2955	QCB32HK-391Z	C CAP.	390 μ F 500V K *	
C2956	QZC0203-227	E CAP.	220 μ F 160V M *	
C2957	QZC0257-228	E CAP.	220 μ F 25V N *	
C2960	QZC0256-128	E CAP.	1200 μ F 10V M *	
C2961	QZC0257-228	E CAP.	220 μ F 25V N *	
C2962	QE81WV-108	E CAP.	1000 μ F 35V M *	
C2964-66	QZC0120-104Z	C CAP.	0.1 μ F 25V Z *	
C2967	QE81H-127Z	E CAP.	220 μ F 10V M *	
C2968	QEHC1M-108Z	E CAP.	1000 μ F 10V M *	
C2969	QETN1CH-108Z	E CAP.	220 μ F 16V M *	
C2970	QCB31HK-391Z	C CAP.	3900 μ F 500V K *	
C2971-72	QFV7HJ-104Z	MF CAP.	0.1 μ F 50V J *	
C2976	QETN1CH-227Z	E CAP.	220 μ F 16V M *	
C2981	QETN1AH-108Z	E CAP.	220 μ F 10V M *	
△ C2992	QCZ9041-471	C CAP.	4700 μ F AC400V K *	
△ C2993	QCZ9041-332	C CAP.	3300 μ F AC400V N *	
C2994	QETN1CH-227Z	E CAP.	220 μ F 25V N *	
C2995	QETN1CH-227Z	E CAP.	220 μ F 25V N *	
C2996	QETN1HM-106Z	E CAP.	10 μ F 50V M *	
C2997	QETN1HM-105Z	E CAP.	1 μ F 50V M *	
C2998	QETN1CH-104Z	E CAP.	220 μ F 16V M *	
C2999	QETN1CH-103Z	E CAP.	220 μ F 16V M *	
C3000	QETN1CH-102Z	E CAP.	220 μ F 16V M *	
C3001	QETN1CH-101Z	E CAP.	220 μ F 16V M *	
C3002	QETN1CH-100Z	E CAP.	220 μ F 16V M *	
C3003	QETN1CH-99Z	E CAP.	220 μ F 16V M *	
C3004	QETN1CH-98Z	E CAP.	220 μ F 16V M *	
C3005	QETN1CH-97Z	E CAP.	220 μ F 16V M *	
C3006	QETN1CH-96Z	E CAP.	220 μ F 16V M *	
C3007	QETN1CH-95Z	E CAP.	220 μ F 16V M *	
C3008	QETN1CH-94Z	E CAP.	220 μ F 16V M *	
C3009	QETN1CH-93Z	E CAP.	220 μ F 16V M *	
C3010	QETN1CH-92Z	E CAP.	220 μ F 16V M *	
C3011	QETN1CH-91Z	E CAP.	220 μ F 16V M *	
C3012	QETN1CH-90Z	E CAP.	220 μ F 16V M *	
C3013	QETN1CH-89Z	E CAP.	220 μ F 16V M *	
C3014	QETN1CH-88Z	E CAP.	220 μ F 16V M *	
C3015	QETN1CH-87Z	E CAP.	220 μ F 16V M *	
C3016	QETN1CH-86Z	E CAP.	220 μ F 16V M *	
C3017	QETN1CH-85Z	E CAP.	220 μ F 16V M *	
C3018	QETN1CH-84Z	E CAP.	220 μ F 16V M *	
C3019	QETN1CH-83Z	E CAP.	220 μ F 16V M *	
C3020	QETN1CH-82Z	E CAP.	220 μ F 16V M *	
C3021	QETN1CH-81Z	E CAP.	220 μ F 16V M *	
C3022	QETN1CH-80Z	E CAP.	220 μ F 16V M *	
C3023	QETN1CH-79Z	E CAP.	220 μ F 16V M *	
C3024	QETN1CH-78Z	E CAP.	220 μ F 16V M *	
C3025	QETN1CH-77Z	E CAP.	220 μ F 16V M *	
C3026	QETN1CH-76Z	E CAP.	220 μ F 16V M *	
C3027	QETN1CH-75Z	E CAP.	220 μ F 16V M *	
C3028	QETN1CH-74Z	E CAP.	220 μ F 16V M *	
C3029	QETN1CH-73Z	E CAP.	220 μ F 16V M *	
C3030	QETN1CH-72Z	E CAP.	220 μ F 16V M *	
C3031	QETN1CH-71Z	E CAP.	220 μ F 16V M *	
C3032	QETN1CH-70Z	E CAP.	220 μ F 16V M *	
C3033	QETN1CH-69Z	E CAP.	220 μ F 16V M *	
C3034	QETN1CH-68Z	E CAP.	220 μ F 16V M *	
C3035	QETN1CH-67Z	E CAP.	220 μ F 16V M *	
C3036	QETN1CH-66Z	E CAP.	220 μ F 16V M *	
C3037	QETN1CH-65Z	E CAP.	220 μ F 16V M *	
C3038	QETN1CH-64Z	E CAP.	220 μ F 16V M *	
C3039	QETN1CH-63Z	E CAP.	220 μ F 16V M *	
C3040	QETN1CH-62Z	E CAP.	220 μ F 16V M *	
C3041	QETN1CH-61Z	E CAP.	220 μ F 16V M *	
C3042	QETN1CH-60Z	E CAP.	220 μ F 16V M *	
C3043	QETN1CH-59Z	E CAP.	220 μ F 16V M *	
C3044	QETN1CH-58Z	E CAP.	220 μ F 16V M *	
C3045	QETN1CH-57Z	E CAP.	220 μ F 16V M *	
C3046	QETN1CH-56Z	E CAP.	220 μ F 16V M *	
C3047	QETN1CH-55Z	E CAP.	220 μ F 16V M *	
C3048	QETN1CH-54Z	E CAP.	220 μ F 16V M *	
C3049	QETN1CH-53Z	E CAP.	220 μ F 16V M *	
C3050	QETN1CH-52Z	E CAP.	220 μ F 16V M *	
C3051	CE42034-002	H.DRIVE TRANSF.	*	
C3052	CE42549-00111	BRIDGE COIL	*	
△ T2901	CETS087-00114	SM TRANSF.	*	

△ Symbol No.	Part No.	Part Name	Description	Local
CAPACITOR				
C3105	QETN1CH-4762	E CAP.	47μF 16V	M *
C3106	NCF21E2-104X	C CAP.	0.1μF 25V	Z *
C3108	QCS31HM-5602	E CAP.	56μF 50V	J *
C3113	QZC0524-102	C CAP.	1000μF 3000V	P *
C3122	QETN1HM-1062	E CAP.	10μF 50V	H *
C3123	QETR2EM-336	E CAP.	33μF 250V	M *
C3125	NCB21HK-103X	C CAP.	0.01μF 50V	K *
C3101	QZC0373-1062	E CAP.	10μF 160V	H *
C3102	QETN1CH-1072	E CAP.	100μF 16V	M *
C3103	QFLC1HJ-1032	M CAP.	0.01μF 50V	J *
C3104	QETN1HM-3352	E CAP.	3.3μF 50V	M *
C3105	NDC21HK-580X	C CAP.	5.0μF 50V	J *
C3106	NDC21HK-681X	C CAP.	680μF 50V	J *
C3107	QCB32HK-4722	C CAP.	4700μF 500V	K *
C3108	NDC21HK-221X	C CAP.	220μF 50V	J *
C3109	QCB32HK-4722	C CAP.	4700μF 500V	K *
C3110	QZC0373-1062	E CAP.	10μF 160V	H *
C3111	QETN1CH-1072	E CAP.	100μF 16V	M *
C3112	QETN1HM-1072	E CAP.	100μF 10V	M *
C3113	QETN1HM-3372	E CAP.	330μF 16V	M *
COIL				
L3101-03	QQL01BK-1812	COIL	180μH	*
DIODE				
D3121	DAN202K-X	DIODE ARRAY		*
D3123	MA3058M/-X	ZENER DIODE		*
D3125-26	DAN202K-X	DIODE ARRAY		*
D3301-02	RH15-73	SI. DIODE		*
TRANSISTOR				
Q3101-03	2SC1815/YG-T	SI. TRANSISTOR		*
Q3104-06	2SC454M-LB	SI. TRANSISTOR		*
Q3153	2SC1815/YG-T	SI. TRANSISTOR		*
Q3154	2SC1015/YG-T	SI. TRANSISTOR		*
Q3301-02	2SC1815/YG-T	SI. TRANSISTOR		*
Q3303	2SC1015/YG-T	SI. TRANSISTOR		*
Q3304	2SA1837	SI. TRANSISTOR		*
Q3305	2SC4793	SI. TRANSISTOR		*
OTHERS				
△ FR3319	QRZ9021-561	FUSI. RESISTOR	560 Ω 1W	J *
K3001	CE41433-001Z	BEADS CORE		*
K3301-04	CE41493-001Z	CHOKE COIL		*
△ SK3001	CE42446-001	E.R.T. SOCKET		*
K3009-12	NRSA02J-0R0X	MG R	0.0Ω 1/10W	J *
W3514	NRSA02J-0R0X	MG R	0.0Ω 1/10W	J *
Y3107	NRSA02J-0R0X	MG R	0.0Ω 1/10W	J *

**FRONT CONTROL P.W. BOARD ASS'Y
(SJF-8023A-U2)**

△ Symbol No.	Part No.	Part Name	Description	Local
RESISTOR				
R8001-02	QRN141-271Y	C R	2700 1/4W	J *
R8003	NRS02J-222X	MG R	2.2KΩ 1/10W	J *
R8004	NRS02J-472X	MG R	4.7KΩ 1/10W	J *
R8005-06	NRS02J-561X	MG R	560Ω 1/10W	J *
R8007	NRS02J-103X	MG R	10KΩ 1/10W	J *
R8008	NRS02J-682X	MG R	6.8KΩ 1/10W	J *
R8009	NRS02J-0R0X	MG R	0.0Ω 1/10W	J *
R8010	NRS02J-332X	MG R	3.3KΩ 1/10W	J *
R8012	NRS02J-103X	MG R	10KΩ 1/10W	J *
R8013	NRS02J-472X	MG R	4.7KΩ 1/10W	J *
R8015-16	NRS02J-102X	MG R	1KΩ 1/10W	J *
R8017	NRS02J-750X	MG R	750Ω 1/10W	J *
R8020-21	NRS02J-471X	MG R	470Ω 1/10W	J *
R8022	NRS02J-821X	MG R	82Ω 1/10W	J *
R8023-24	NRS02J-750	MG R	750Ω 1/10W	J *
R8024	NRS02J-562X	MG R	5.6KΩ 1/10W	J *
△ R8095	QRZ0111-474	C R	470KΩ 1/2W	K *
CAPACITOR				
C8001-02	NCB21HK-222X	C CAP.	2200pF 50V	K *
C8003	QETN1HM-1062	E CAP.	10μF 50V	M *
C8004	NCF21E2-104X	C CAP.	0.1μF 25V	Z *
C8005	QETR1CH-1072	E CAP.	100μF 16V	M *
C8006-07	QE20448-108	E CAP.	1000pF 35V	M *
C8010-11	NCB21HK-472X	C CAP.	4700pF 50V	K *
C8012	QZC020-104Z	C CAP.	0.1μF 25V	Z *
C8473	QETN1HM-4762	E CAP.	47μF 50V	M *
C8474	QETN1HM-474Z	E CAP.	0.47μF 50V	M *
△ C8501	QZC040-474	MF CAP.	0.47μFAC25V	M *
COIL				
L8001	CE41832-001	LEAD CORE		*
L8002-03	QQL211K-5R6Y	COIL	5.6μH	*
L8010-11	QQL211K-270Y	COIL	27μH	*
L8012	CE41832-001	LEAD CORE		*
DIODE				
08007	P1241-04	C.D.S.		*
08008	DAN202K-X	DIODE ARRAY		*
08009	SLR-3424G-T16	L.E.D. (GRN)		*
08010	SPR-39WVF	L.E.D.		*
08012	SLR-3420U-T16	L.E.D. (ORG)		*
08013	MA3058M/-X	ZENER DIODE		*
08014	SLR-342YY-T16	L.E.D. (YLM)		*
08015	MA1528K-X	SI. DIODE		*
TRANSISTOR				
Q8001	2SA116Z/YG-X	SI. TRANSISTOR		*
Q8002-03	DTA1447A-T	DIGI. TRANSISTOR		*
Q8005-07	2SC1015/YG-T	SI. TRANSISTOR		*
IC				
IC8001	GP1U281Q	IFR DETECT UNIT		*
OTHERS				
CM36548-001-E	L.E.D. HOLDER		*	
CM35921-404-H	CDS HOLDER		*	
CN8001	QGF1216C1-25	FFC CONNECTOR		

**AV TERMINAL P.W. BOARD ASS'Y
(SJF0J022A-U2)**

△ Symbol No.	Part No.	Part Name	Description	Local
RESISTOR				
R0102-03	NRS02J-750X	MG R	75Ω 1/10W	J *
R0104	NRS02J-0R0X	MG R	0.0Ω 1/10W	J *
R0105	NRS02J-750X	MG R	75Ω 1/10W	J *
R0107	NRS02J-0R0X	MG R	0.0Ω 1/10W	J *
R0108	NRS02J-750X	MG R	75Ω 1/10W	J *
R0110	NRS02J-0R0X	MG R	0.0Ω 1/10W	J *
R0111-12	NRS02J-823X	MG R	82Ω 1/10W	J *
R0113	NRS02J-0R0X	MG R	0.0Ω 1/10W	J *
R0202	NRS02J-750	MG R	75Ω 1/10W	J *
R0203	NRS02J-0R0X	MG R	0.0Ω 1/10W	J *
R0204	NRS02J-823X	MG R	82Ω 1/10W	J *
R0205	NRS02J-0R0X	MG R	0.0Ω 1/10W	J *
R0206	NRS02J-823X	MG R	82Ω 1/10W	J *
CAPACITOR				
C0102	QETC1CH-4772	E CAP.	470pF 16V	M *
C0103-05	QETN1HM-1062	E CAP.	10μF 50V	M *
C0106	QETN1HM-1052	E CAP.	1μF 50V	M *
C0107	NCB21HK-472X	C CAP.	4700pF 50V	K *
C0108	QETN1HM-1052	E CAP.	1μF 50V	M *
C0109	NCB21HK-472X	C CAP.	4700pF 50V	K *
C0202	QETC1CH-4772	E CAP.	470pF 16V	M *
C0203	QFLC1HJ-1032	M CAP.	0.01μF 50V	J *
C0204-05	QETN1HM-1052	E CAP.	1μF 50V	M *
C0206-07	NCB21HK-472X	C CAP.	4700pF 50V	K *
COIL				
L0101-04	QQL211K-5R6Y	COIL		5.6μH *
L0105	CE41832-001	LEAD CORE		*
L0201-04	QQL211K-5R6Y	COIL		5.6μH *
L0205	CE41832-001	LEAD CORE		*
OTHERS				
CN0008	CHA401R-15R-J	HDF CONNECTOR		*
CN0009	QGB2004H-25	HDF CONNECTOR		*
J0001-02	CE40529-006	SCART CONNECTOR		*

AV-28WT4EK
AV-28WT4EKS

AV-28WT4EN / AV-28WT4ENS

PRINTED WIRING BOARD PARTS LIST

MAIN P.W. BOARD ASS'Y (SJF-1023A-U2)

△ Symbol No. Part No. Part Name Description Local

RESISTOR

R1001	QRE141J-474X	C R	470kΩ 1/4W J *
R1002	QRE141J-104Y	C R	100kΩ 1/4W J *
R1003-06	QRE141J-102Y	C R	1kΩ 1/4W J *
R1101-02	QRE141J-391Y	C R	390Ω 1/4W J *
R1103-04	QRE141J-102Y	C R	1kΩ 1/4W J *
R1105	QRE141J-562Y	C R	5.6kΩ 1/4W J *
R1106	QRE141J-102Y	C R	1kΩ 1/4W J *
R1107	QRE141J-561Y	C R	560Ω 1/4W J *

R1108	QRE141J-224Y	C R	220kΩ 1/4W J *
R1109	QRE141J-273Y	C R	27kΩ 1/4W J *
R1110	QRE141J-103Y	C R	10kΩ 1/4W J *
R1111	QRE141J-472Y	C R	4.7kΩ 1/4W J *
R1112-14	QRE141J-101Y	C R	100Ω 1/4W J *
R1115-18	QRE141J-102Y	C R	1kΩ 1/4W J *
R1119	QRE141J-333Y	C R	33kΩ 1/4W J *
R1120	QRE141J-102Y	C R	1kΩ 1/4W J *

R1121	QRE141J-472Y	C R	4.7kΩ 1/4W J *
R1122	QRE141J-103Y	C R	10kΩ 1/4W J *
R1125	QRE141J-471Y	C R	470Ω 1/4W J *
R1165	QRE141J-102Y	C R	1kΩ 1/4W J *
R1166	QRE141J-681Y	C R	680Ω 1/4W J *
R1167	QRE141J-123Y	C R	12kΩ 1/4W J *
R1169	QRE141J-123Y	C R	12kΩ 1/4W J *
R1172	QRE141J-561Y	C R	560Ω 1/4W J *

R1173	QRE141J-224Y	C R	220kΩ 1/4W J *
R1174	QRE141J-273Y	C R	27kΩ 1/4W J *
R1175	QRE141J-103Y	C R	10kΩ 1/4W J *
R1176	QRE141J-472Y	C R	4.7kΩ 1/4W J *
R1176-64	QRE141J-102Y	C R	1kΩ 1/4W J *

R1177	QRE141J-102Y	C R	1kΩ 1/4W J *
R1178-82	QRE141J-102Y	C R	1kΩ 1/4W J *
R1178-84	QRE141J-221Y	C R	220Ω 1/4W J *
R1178-87	QRE141J-102Y	C R	1kΩ 1/4W J *
R1179	QRE141J-102Y	C R	1kΩ 1/4W J *

R1179	QRE141J-393Y	C R	39kΩ 1/4W J *
R1179-92	QRE0949J-103	NET.R	10kΩ *
R1179-93	QRE141J-562Y	C R	5.6kΩ 1/4W J *
R1180	QRE141J-221Y	C R	220Ω 1/4W J *
R1180-03	QRE141J-102Y	C R	1kΩ 1/4W J *

R1180	QRE141J-681Y	C R	680Ω 1/4W J *
R1180-05	QRE141J-102Y	C R	1kΩ 1/4W J *
R1180-10	QRE141J-333Y	C R	33kΩ 1/4W J *
R1180-11	QRE141J-332Y	C R	3.3kΩ 1/4W J *
R1180-12	QRE141J-822Y	C R	8.2kΩ 1/4W J *

R1180-13	QRE141J-221Y	C R	220Ω 1/4W J *
R1180-14	QRE141J-391Y	C R	390Ω 1/4W J *
R1180-15	QRE141J-122Y	C R	1.2kΩ 1/4W J *
R1180-16	QRE141J-104Y	C R	100Ω 1/4W J *
R1180-17	QRE141J-331Y	C R	330Ω 1/4W J *

R1180-18	QRE141J-103Y	C R	10kΩ 1/4W J *
R1180-19	QRE141J-103Y	C R	10kΩ 1/4W J *
R1180-20	QRE141J-103Y	C R	10kΩ 1/4W J *
R1180-21	QRE141J-103Y	C R	10kΩ 1/4W J *
R1180-22	QRE141J-103Y	C R	10kΩ 1/4W J *

R1180-23	QRE141J-103Y	C R	10kΩ 1/4W J *
R1180-24	QRE141J-103Y	C R	10kΩ 1/4W J *
R1180-25	QRE141J-103Y	C R	10kΩ 1/4W J *
R1180-26	QRE141J-103Y	C R	10kΩ 1/4W J *
R1180-27	QRE141J-103Y	C R	10kΩ 1/4W J *

R1180-28	QRE141J-103Y	C R	10kΩ 1/4W J *
R1180-29	QRE141J-103Y	C R	10kΩ 1/4W J *
R1180-30	QRE141J-103Y	C R	10kΩ 1/4W J *
R1180-31	QRE141J-103Y	C R	10kΩ 1/4W J *
R1180-32	QRE141J-103Y	C R	10kΩ 1/4W J *

R1180-33	QRE141J-103Y	C R	10kΩ 1/4W J *
R1180-34	QRE141J-103Y	C R	10kΩ 1/4W J *
R1180-35	QRE141J-103Y	C R	10kΩ 1/4W J *
R1180-36	QRE141J-103Y	C R	10kΩ 1/4W J *
R1180-37	QRE141J-103Y	C R	10kΩ 1/4W J *

R1180-38	QRE141J-103Y	C R	10kΩ 1/4W J *
R1180-39	QRE141J-103Y	C R	10kΩ 1/4W J *
R1180-40	QRE141J-103Y	C R	10kΩ 1/4W J *
R1180-41	QRE141J-103Y	C R	10kΩ 1/4W J *
R1180-42	QRE141J-103Y	C R	10kΩ 1/4W J *

R1180-43	QRE141J-103Y	C R	10kΩ 1/4W J *
R1180-44	QRE141J-103Y	C R	10kΩ 1/4W J *
R1180-45	QRE141J-103Y	C R	10kΩ 1/4W J *
R1180-46	QRE141J-103Y	C R	10kΩ 1/4W J *
R1180-47	QRE141J-103Y	C R	10kΩ 1/4W J *

R1180-48	QRE141J-103Y	C R	10kΩ 1/4W J *
R1180-49	QRE141J-221Y	C R	220Ω 1/4W J *
R1180-50	FUSE, RESISTOR	47 Ω	1/4W J *
R1180-51	QRE141J-103Y	C R	10kΩ 1/4W J *
R1180-52	QRE141J-183Y	C R	18kΩ 1/4W J *

△ Symbol No. Part No. Part Name Description Local

RESISTOR

R1745	QRE141J-103Y	C R	10kΩ 1/4W J *
R1746	QRE141J-682Y	C R	6.8kΩ 1/4W J *
R1747	QRE141J-823Y	C R	8.2kΩ 1/4W J *
R1748	QRE141J-682Y	C R	6.8kΩ 1/4W J *
R1749	QRE141J-682Y	C R	6.8kΩ 1/4W J *

R1750	QRE141J-221Y	C R	2.2kΩ 1/4W J *
R1751	QRE141J-102Y	C R	1kΩ 1/4W J *
R1752	QRE141J-331Y	C R	330Ω 1/4W J *
R1753	QRE141J-102Y	C R	1kΩ 1/4W J *
R1754	QRE141J-822Y	C R	2.2kΩ 1/4W J *

R1755	QRE141J-102Y	C R	1.5kΩ 1/4W J *
R1756	QRE141J-102Y	C R	1.5kΩ 1/4W J *
R1757	QRE141J-102Y	C R	1.5kΩ 1/4W J *
R1758	QRE141J-102Y	C R	1.5kΩ 1/4W J *
R1759	QRE141J-102Y	C R	1.5kΩ 1/4W J *

R1760	QRE141J-102Y	C R	2.2kΩ 1/4W J *
R1761	QRE141J-472Y	C R	4.7kΩ 1/4W J *
R1762	QRE141J-102Y	C R	10kΩ 1/4W J *
R1763	QRE141J-102Y	C R	10kΩ 1/4W J *
R1764	QRE141J-102Y	C R	10kΩ 1/4W J *

R1765	QRE141J-102Y	C R	10kΩ 1/4W J *
R1766	QRE141J-102Y	C R	10kΩ 1/

△ Symbol No.	Part No.	Part Name	Description	Local
CAPACITOR				

C1695	QETN1HM-1062	E CAP.	10pF	50V M *
C1696-97	QETN1CH-4762	E CAP.	47pF	16V M *
C1698	QETN1CH-2272	E CAP.	220pF	16V M *
C1701	QETN1CH-1082	E CAP.	1000pF	16V M *
C1702	QCZ0120-1042	C CAP.	0.1μF	25V Z *
C1703	QETN1HM-1062	E CAP.	10pF	50V M *
C1704	QETN1HM-2272	E CAP.	220pF	16V M *
C1705	QCZ0120-1042	C CAP.	0.1μF	25V Z *
C1706	QFLC1HJ-6832	M CAP.	0.068μF	50V J *
C1707	QETN1HM-1052	E CAP.	1μF	50V M *
C1709	QDC31HJ-1802	C CAP.	18pF	50V J *
C1711	QCZ0120-1042	C CAP.	0.1μF	25V Z *
C1712	QETN1HM-1072	E CAP.	100pF	10V M *
C1713	QCS31HJ-2202	C CAP.	220pF	50V J *
C1714	QCS31HJ-1032	C CAP.	0.01μF	50V K *
C1715	QFLC1HJ-3332	M CAP.	0.033μF	50V J *
C1716	QFV71HJ-1042	NF CAP.	0.1μF	50V J *
C1718	QDC31HJ-1802	C CAP.	18pF	50V J *
C1720	QCB31HK-1022	C CAP.	1000pF	50V K *
C1721	QCB31HK-4722	C CAP.	4700pF	50V K *
C1723	QEN21HM-1052	BP E CAP.	1μF	50V M *
C1761	QETM1CM-228	E CAP.	2200pF	16V M *
C1767	QCS31HJ-1512	C CAP.	150pF	50V J *
C1781	QCZ0120-1042	C CAP.	0.1μF	25V Z *
C1807	QETN1CH-4762	E CAP.	47pF	16V M *
C1809	QETN1HM-1062	E CAP.	10pF	50V M *
C1811	QETN1HM-1062	E CAP.	10pF	50V M *
C1812	QETN1HM-1072	E CAP.	100pF	16V M *
C1813	QETN1HM-1062	E CAP.	10pF	50V M *
C1814-15	QCB31HK-1032	C CAP.	0.01μF	50V K *
C1816	QETN1HM-2162	E CAP.	22pF	50V M *
C1817	QCB31HK-1032	C CAP.	0.01μF	50V K *
C1818	QFLC1HJ-2327	M CAP.	0.022μF	50V J *
C1819	QCB31HK-2212	C CAP.	220pF	50V K *
C1820-21	QDC31HJ-1502	C CAP.	15pF	50V J *
C1822	QFV71HJ-1042	NF CAP.	0.1μF	50V J *
C1823-24	QCB31HK-1022	C CAP.	1000pF	50V K *
C1825	QCB31HK-2212	C CAP.	220pF	50V K *
C1826	QCZ0120-1042	C CAP.	0.1μF	25V Z *
C1827	QETN1HM-4772	E CAP.	470pF	10V M *
C1828	QCZ0120-1042	C CAP.	0.1μF	25V Z *
C1829	QFV71HJ-1042	NF CAP.	0.1μF	50V J *
C1836-65	QETN1HM-1052	E CAP.	1μF	50V M *
C1836	QETN1CH-4762	E CAP.	47pF	16V M *
C1904	QETN1HM-228	E CAP.	2200pF	50V M *
C1906	QETN1HM-1072	E CAP.	100pF	16V M *

COIL

L1001	QQL01BK-2702	COIL	27μH	*
L1002-04	QQL01BK-8R22	COIL	8.2μH	*
L1005	QQL01BK-5R62	COIL	5.6μH	*
L1101-02	QQL01BK-4R72	COIL	4.7μH	*
L1103	QQL01BK-3302	COIL	33μH	*
L1104	QQL01BK-4R72	COIL	4.7μH	*
L1161	QQL01BK-1802	COIL	18μH	*
L1162	QQL01BK-2202	COIL	22μH	*

DIODE

DI101	155133-T2	SI.DIODE	*
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△ Symbol No.	Part No.	Part Name	Description	Local
DIODE				

D1102-03	MTZJ5.1B-T2	ZENER DIODE	*
D1104-06	155133-T2	SI.DIODE	*
D1201	MTZ4.7A-T2	ZENER DIODE	*
D1202-03	155133-T2	SI.DIODE	*
D1204	MTZ10A-T2	ZENER DIODE	*
D1205-06	MTZ15A-T2	ZENER DIODE	*
D1453	155133-T2	SI.DIODE	*
D1501-02	155133-T2	SI.DIODE	*

Q101	2SC1015/YG/-T	SI.TRANSISTOR	*
Q102	2SC1815/YG/-T	SI.TRANSISTOR	*
Q103	2SC1245A-T	DIGI.TRANSISTOR	*
Q1163	2SC1815/YG/-T	SI.TRANSISTOR	*
Q1201-02	2SC1815/YG/-T	SI.TRANSISTOR	*
Q1203	2SC1015/YG/-T	SI.TRANSISTOR	*
Q1204-05	DTC323TS-T	DIGI.TRANSISTOR	*
Q1206	2SC1815/YG/-T	SI.TRANSISTOR	*

Q1207	2SC1015/YG/-T	SI.TRANSISTOR	*
Q1208-09	2SC1815/YG/-T	SI.TRANSISTOR	*
Q1210-11	DTC323TS-T	DIGI.TRANSISTOR	*
Q1212	2SC1815/YG/-T	SI.TRANSISTOR	*
Q1214-15	DTC232TS-T	DIGI.TRANSISTOR	*
Q1451	DTC1245S-T	DIGI.TRANSISTOR	*
Q1452	2SC1815/YG/-T	SI.TRANSISTOR	*
Q1501	2SC1815/YG/-T	SI.TRANSISTOR	*

Q1502	2SC1015/YG/-T	SI.TRANSISTOR	*
Q1701-02	2SC1815/YG/-T	SI.TRANSISTOR	*
Q1703	DTC1445A-T	DIGI.TRANSISTOR	*
Q1761	DTC1445S-T	DIGI.TRANSISTOR	*
Q1762	2SC1015/YG/-T	SI.TRANSISTOR	*
Q1763-64	DTC232TS-T	DIGI.TRANSISTOR	*
Q1801	2SC1015/YG/-T	SI.TRANSISTOR	*
Q1802	DTC1245S-T	DIGI.TRANSISTOR	*

Q1806-07	2SC1815/YG/-T	SI.TRANSISTOR	*
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IC

IC1101	TB1227AN	I.C.(DIGI-OTHER)	*
IC1201	TEA6416	I.C.(MONO-ANA)	*
IC1451	ML14538BCP	I.C.(DIGI-MOS)	*
IC1601	MSP3410B-PF-F7	I.C.(DIGI-OTHER)	*
IC1602	BA4458	I.C.(MONO-ANA)	*
IC1611	TOA7263M	I.C.(MONO-ANA)	*
IC1701	H37271M-2525P	I.C.(MONO-ANA)	*
IC1702	L78LROSE-MA	I.C.(MONO-ANA)	*

IC1703	AT24C1628WT4E4H	I.C. (SERVICE)	*
IC1781	JL1562B	I.C.(DIGI-MOS)	*
IC1801	TC4053BP/NV	I.C.	*
IC1802	CF70206	I.C.(DIGI-MOS)	*
IC1803	CF72417	I.C.(DIGI-MOS)	*

△ Symbol No.	Part No.	Part Name	Description	Local
OTHERS				

CH1001	QGF1216C1-25	FPC CONNECTOR	*
CN1009	0650204P2-25	HOP PLUG	*
EF1601-02	CEA24142-103Z	EMI FILTER	*
K1001-04	CE41433-001Z	BEADS CORE	*
TU1001	CEK481-804	TUNER	*
X1101	QAO2005-0012	CRYSTAL	*
X1601	CE42546-001Z	CRYSTAL	*
X1701	CST8.00MTW	CER. RESONATOR	*

IF MODULE PWB(As follows)

AUTO ASPECT MODULE P.W. BOARD ASS'Y ←
(SMC-W001A(U))

△ Symbol No.	Part No.	Part Name	Description	Local
SMC-W001A(U)				

IF MODULE P.W. BOARD ASS'Y (SJF0F021A-U2) ←

△ Symbol No.	Part No.	Part Name	Description	Local
SJF0F021A-U2				

IF MODULE PWB

POWER / DEF P.W. BOARD ASS'Y

(SJF-2023A-U2)

Refer to PARTS LIST in page 43 for this P.W. board.

CRT SOCKET P.W. BOARD ASS'Y (SJF-3022A-U2)

Refer to PARTS LIST in page 45 for this P.W. board.

AV TERMINAL P.W. BOARD ASS'Y

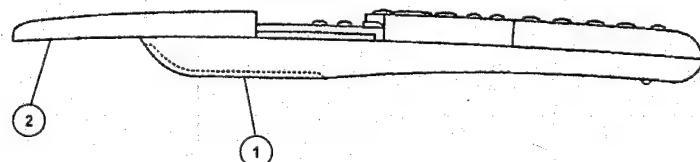
(SJF0J022A-U2)

Refer to PARTS LIST in page 47 for this P.W. board.

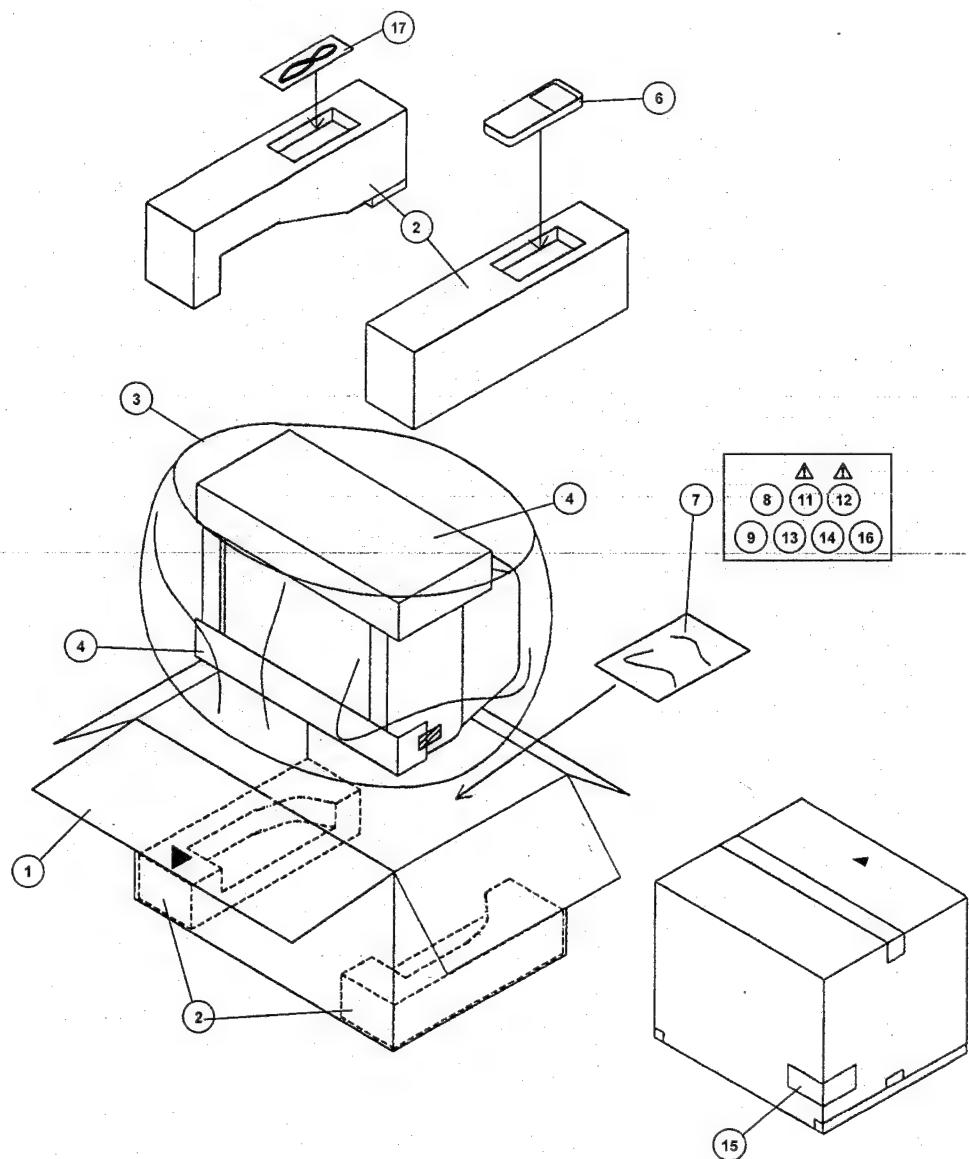
AV-28WT4EN
AV-28WT4ENS

REMOTE CONTROL UNIT PARTS LIST

Ref.No.	Part No.	Part Name	Description	Local
RM-C794-1E	1 BGV110201A 2 BGV110302A	BATTERY COVER SLIDE COVER		
RM-C795-1E	1 BGV110201A 2 BGV110303A	BATTERY COVER SLIDE COVER		



PACKING



AV-28WT4EK
AV-28WT4EKS
AV-28WT4EN
AV-28WT4ENS

AV-28WT4EK
AV-28WT4EKS
AV-28WT4EN
AV-28WT4ENS

PACKING PARTS LIST

AV-28WT4EK

1	AEM1002-067-E	PACKING CASE		*
2	LC10522-002A-U	CUSHION ASSY	4pcs in 1set	*
3	AEM1004-009-E	SET COVER		*
4	CP40193-009-E	CUSHION SHEET		*
5	CP40193-010-E	CUSHION SHEET		*
6	RM-C794-1E	REMOCON UNIT		*
7	AEM3021-001-E	POLY BAG		*
8	BT-54013-1E	WARRANTY CARD		*
△ 11	LCT0406-001A-U	INST BOOK		*
13	BT-20066A-E	ADDRESS CARD	(1295)	*
15	AEM1039-033-E	EURO LABEL		*
16	LCT0065-001A-U	WARNING SHEET		*
17	QAM0167-001	RF CABLE		*

AV-28WT4EKS

1	AEM1002-067-E	PACKING CASE		*
2	LC10522-002A-U	CUSHION ASSY	4pcs in 1set	*
3	AEM1004-009-E	SET COVER		*
4	CP40193-009-E	CUSHION SHEET		*
5	CP40193-010-E	CUSHION SHEET		*
6	RM-C794-1E	REMOCON UNIT		*
7	AEM3021-001-E	POLY BAG		*
8	BT-54013-1E	WARRANTY CARD		*
△ 11	LCT0406-001A-U	INST BOOK		*
13	BT-20066A-E	ADDRESS CARD	(1295)	*
15	AEM1039-034-E	EURO LABEL		*
16	LCT0065-001A-U	WARNING SHEET		*
17	QAM0167-001	RF CABLE		*

AV-28WT4EN

1	AEM1002-067-E	PACKING CASE		*
2	LC10522-002A-U	CUSHION ASSY	4pcs in 1set	*
3	AEM1004-009-E	SET COVER		*
4	CP40193-009-E	CUSHION SHEET		*
5	CP40193-010-E	CUSHION SHEET		*
6	RM-C795-1E	REMOCON UNIT		*
7	AEM3021-001-E	POLY BAG		*
8	BT-54013-1E	WARRANTY CARD		*
9	28WT4ENS-HSAE	S. DIAGRAM	ONLY ITALY(SERVICE)	
△ 11	LCT0407-001A-U	INST BOOK	For ENG/GER/FRA/NED/ITA/ESP	*
12	LCT0408-001A-U	INST BOOK	For FIN/NOR/DEN/SWE/POR	*
13	BT-20066A-E	ADDRESS CARD	(1295)	*
14	AEM1045-001-E	X RAY CARD		*
15	AEM1039-035-E	EURO LABEL		*
16	LCT0065-001A-U	WARNING SHEET		*
17	QAM0167-001	RF CABLE		*

AV-28WT4ENS

1	AEM1002-067-E	PACKING CASE		*
2	LC10522-002A-U	CUSHION ASSY	4pcs in 1set	*
3	AEM1004-009-E	SET COVER		*
4	CP40193-009-E	CUSHION SHEET		*
5	CP40193-010-E	CUSHION SHEET		*
6	RM-C795-1E	REMOCON UNIT		*
7	AEM3021-001-E	POLY BAG		*
8	BT-54013-1E	WARRANTY CARD		*
9	28WT4ENS-HSAE	S. DIAGRAM	ONLY ITALY(SERVICE)	
△ 11	LCT0407-001A-U	INST BOOK	For ENG/GER/FRA/NED/ITA/ESP	*
12	LCT0408-001A-U	INST BOOK	For FIN/NOR/DEN/SWE/POR	*
13	BT-20066A-E	ADDRESS CARD	(1295)	*
14	AEM1045-001-E	X RAY CARD		*
15	AEM1039-036-E	EURO LABEL		*
16	LCT0065-001A-U	WARNING SHEET		*
17	QAM0167-001	RF CABLE		*

AV-28WT4EK
AV-28WT4EKS
AV-28WT4EN
AV-28WT4ENS

STANDARD CIRCUIT DIAGRAM

■ NOTE ON USING CIRCUIT DIAGRAMS

1. SAFETY

The components identified by the Δ symbol and shading are critical for safety. For continued safety replace safety critical components only with manufacturers recommended parts.

2. SPECIFIED VOLTAGE AND WAVEFORM VALUES

The voltage and waveform values have been measured under the following conditions.

- (1) Input signal :PAL Colour bar signal
- (2) Setting positions of each knob/button and variable resistor :Original setting position when shipped
- (3) Internal resistance of tester :DC 20k Ω /V
- (4) Oscilloscope sweeping time :H \Rightarrow 20 μ s/div
V \Rightarrow 5mS/div
Others \Rightarrow Sweeping time is specified
- (5) Voltage values :All DC voltage values

* Since the voltage values of signal circuit vary to some extent according to adjustments, use them as reference values.

3. INDICATION OF PARTS SYMBOL [EXAMPLE]

● In the PW board :R1209-R209

4. INDICATIONS ON THE CIRCUIT DIAGRAM

(1) Resistors

● Resistance value

- No unit : Ω
- K : $K\Omega$
- M : $M\Omega$

● Rated allowable power

- No indication :1/4[W]
- Others :As specified

● Type

- No indication :Carbon resistor
- OMR :Oxide metal film resistor
- MFR :Metal film resistor
- MPR :Metal plate resistor
- UNFR :Uninflammable resistor
- FR :Fusible resistor

* Composition resistor 1/2[W] is specified as 1/2S or Comp.

(2) Capacitors

● Capacitance value

- 1 or higher : pF
- less than 1 : μF

● Withstand voltage

- No indication :DC50[V]

AC indicated :AC withstand voltage [V]

Others :DC withstand voltage [V]

* Electrolytic Capacitors

47/50[Example]:Capacitance value [μF]/withstand voltage[V]

AV-28WT4EK
AV-28WT4EKS
AV-28WT4EN
AV-28WT4ENS

AV-28WT4EK
AV-28WT4EKS
AV-28WT4EN
AV-28WT4ENS

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PATTERN DIAGRAMS

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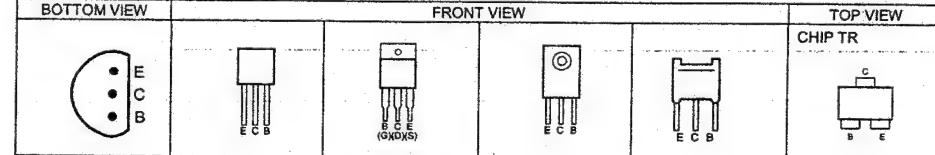
FRONT CONTROL PWB PATTERN 2-23

AV TERMINAL PWB PATTERN 2-25

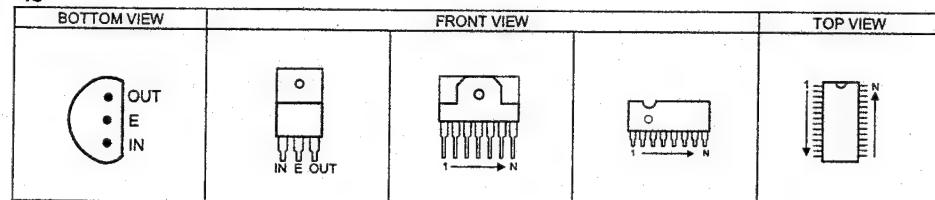
IF MODULE PWB PATTERN 2-26

SEMICONDUCTOR SHAPES

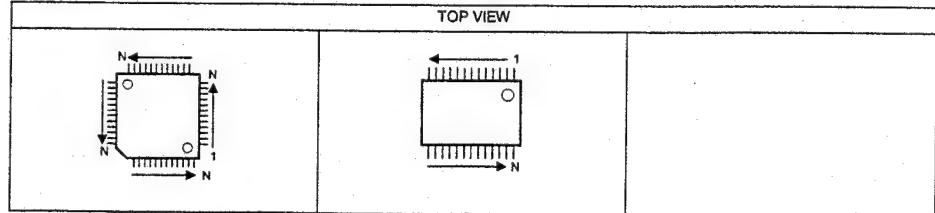
TRANSISTOR



IC

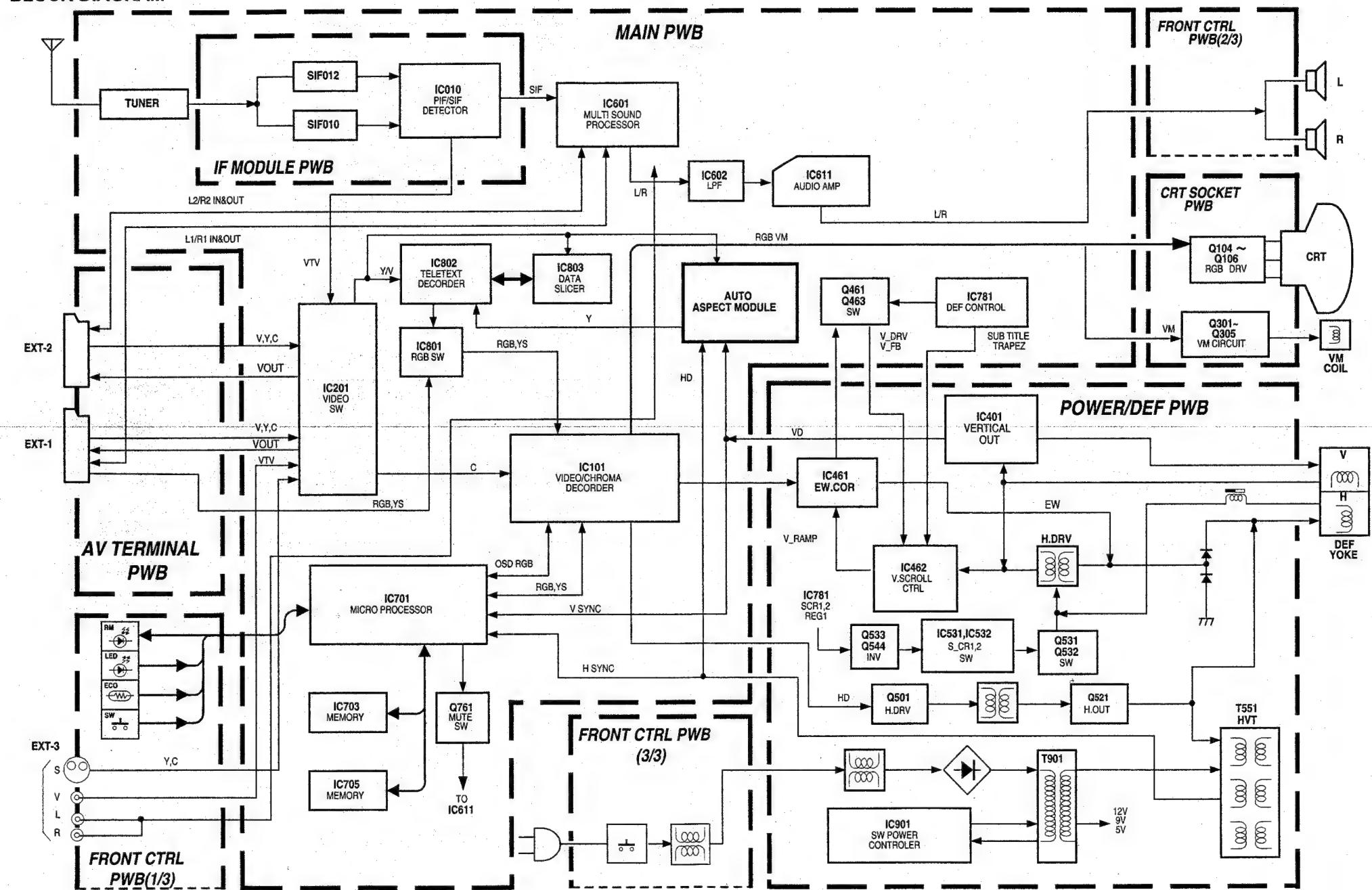


CHIP IC



AV-28WT4ER
AV-28WT4EKS
AV-28WT4EN
AV-28WT4ENS

BLOCK DIAGRAM

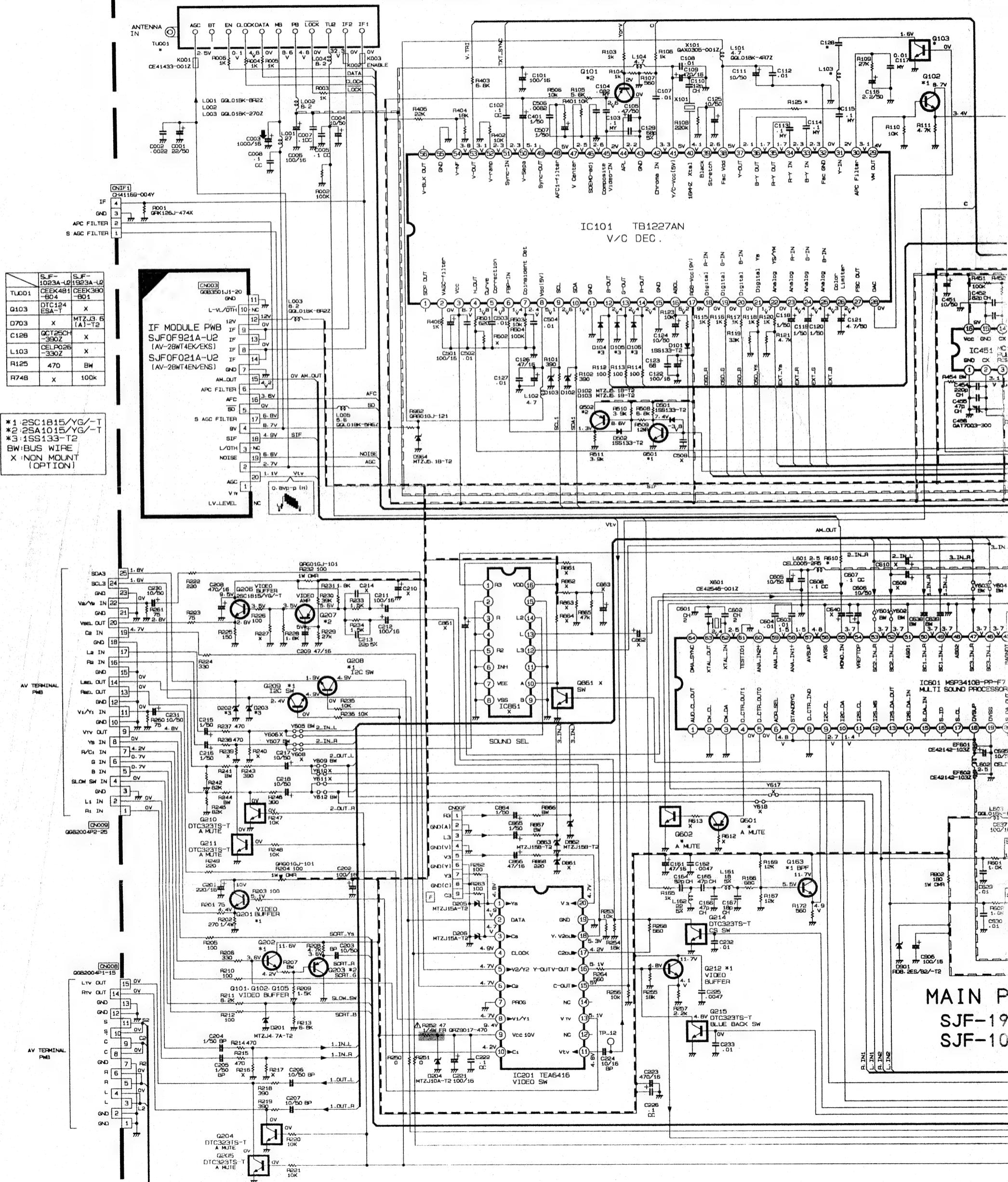


AV-28WT4EK
AV-28WT4EKS
AV-28WT4EN
AV-28WT4ENS

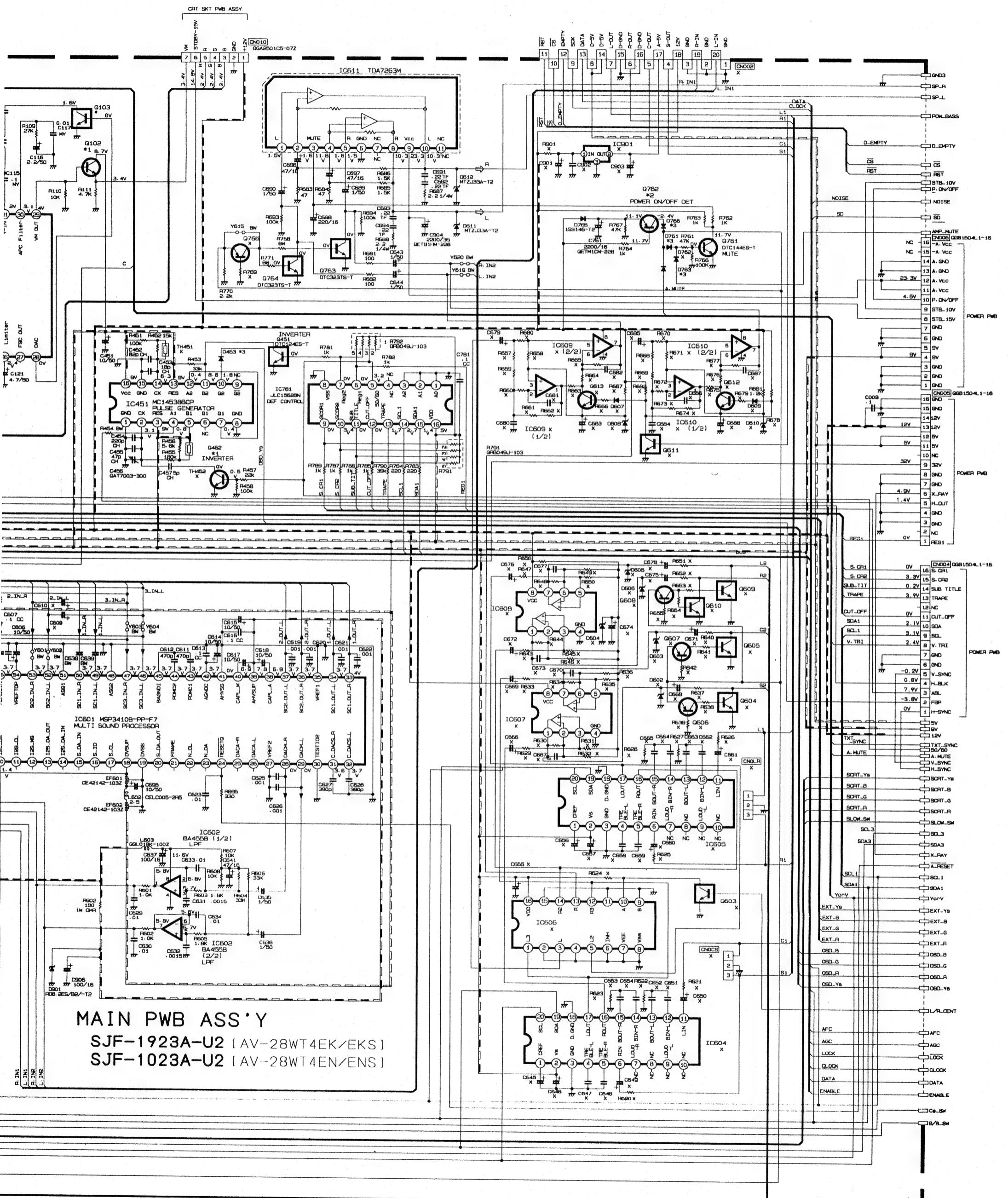
AV-28W
AV-28W
AV-28W
AV-28W

CIRCUIT DIAGRAMS

MAIN PWB CIRCUIT DIAGRAM

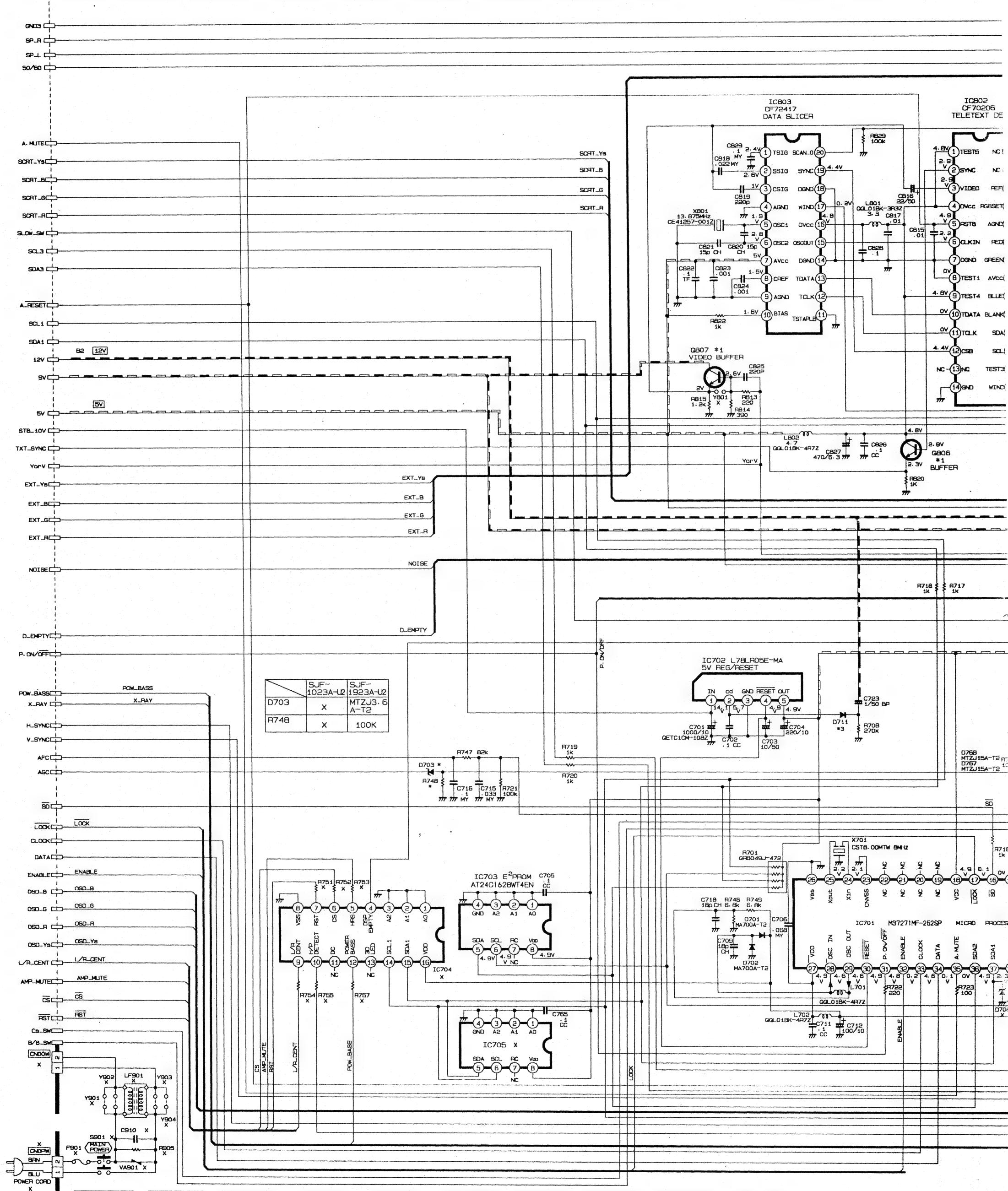


EK	AV-28WT4EK
KS	AV-28WT4EKS
EN	AV-28WT4EN
NS	AV-28WT4ENS

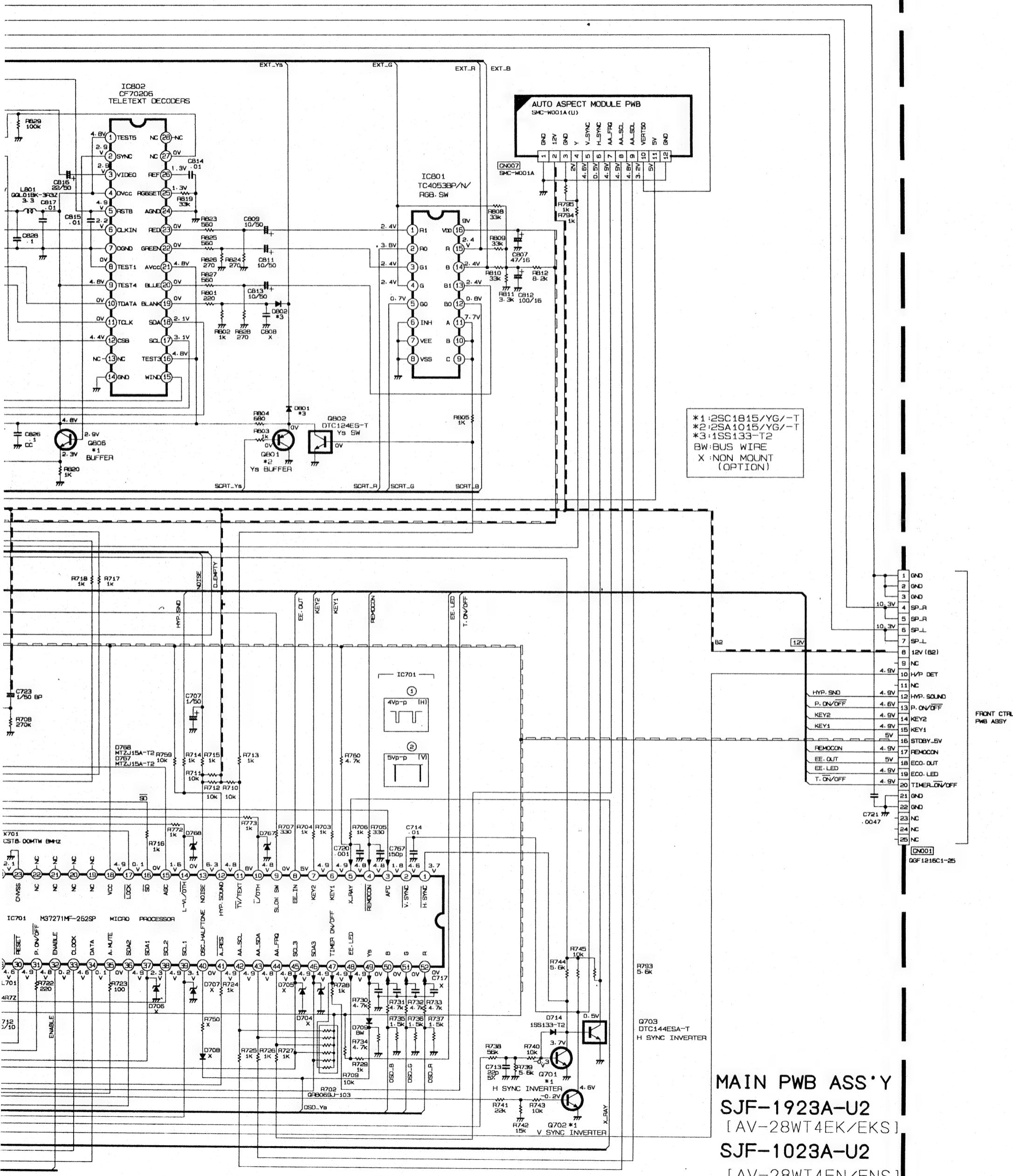


AV-28WT4EK
AV-28WT4EKS
AV-28WT4EN
AV-28WT4ENS

AV-1



T4EK
4EKS
T4EN
4ENS
AV-28WT4EK
AV-28WT4EKS
AV-28WT4EN
AV-28WT4ENS



AV-28WT4EK
AV-28WT4EKS
AV-28WT4EN
AV-28WT4ENS

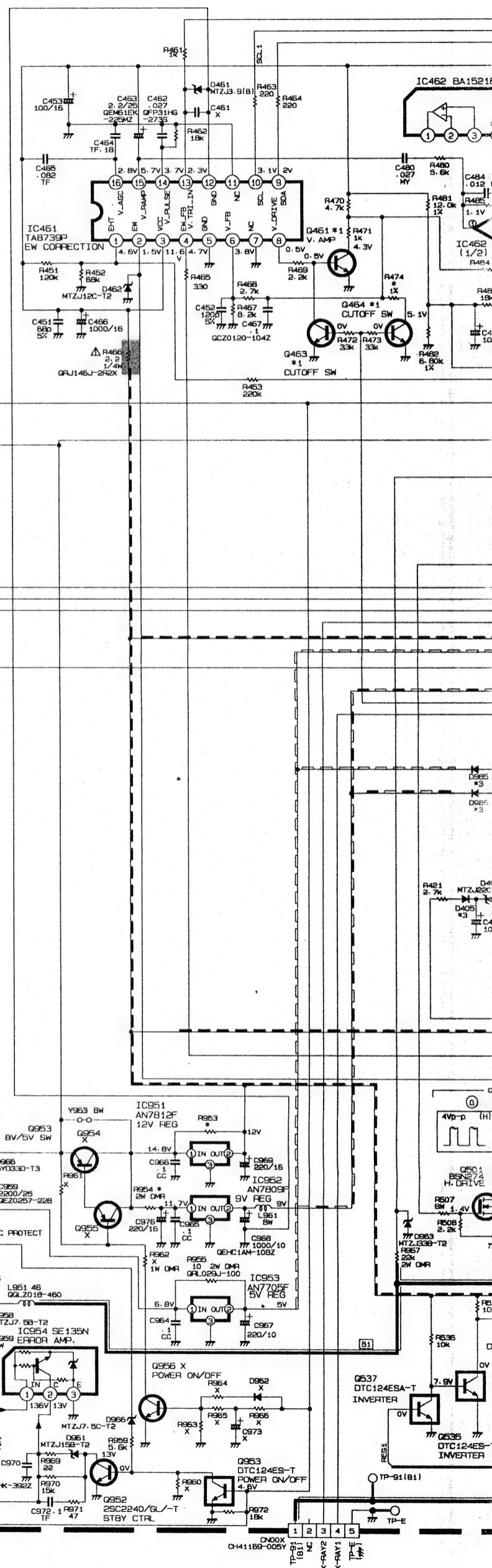
AV-28W
AV-28W
AV-28W
AV-28W

POWER/DEF PWB CIRCUIT DIAGRAM

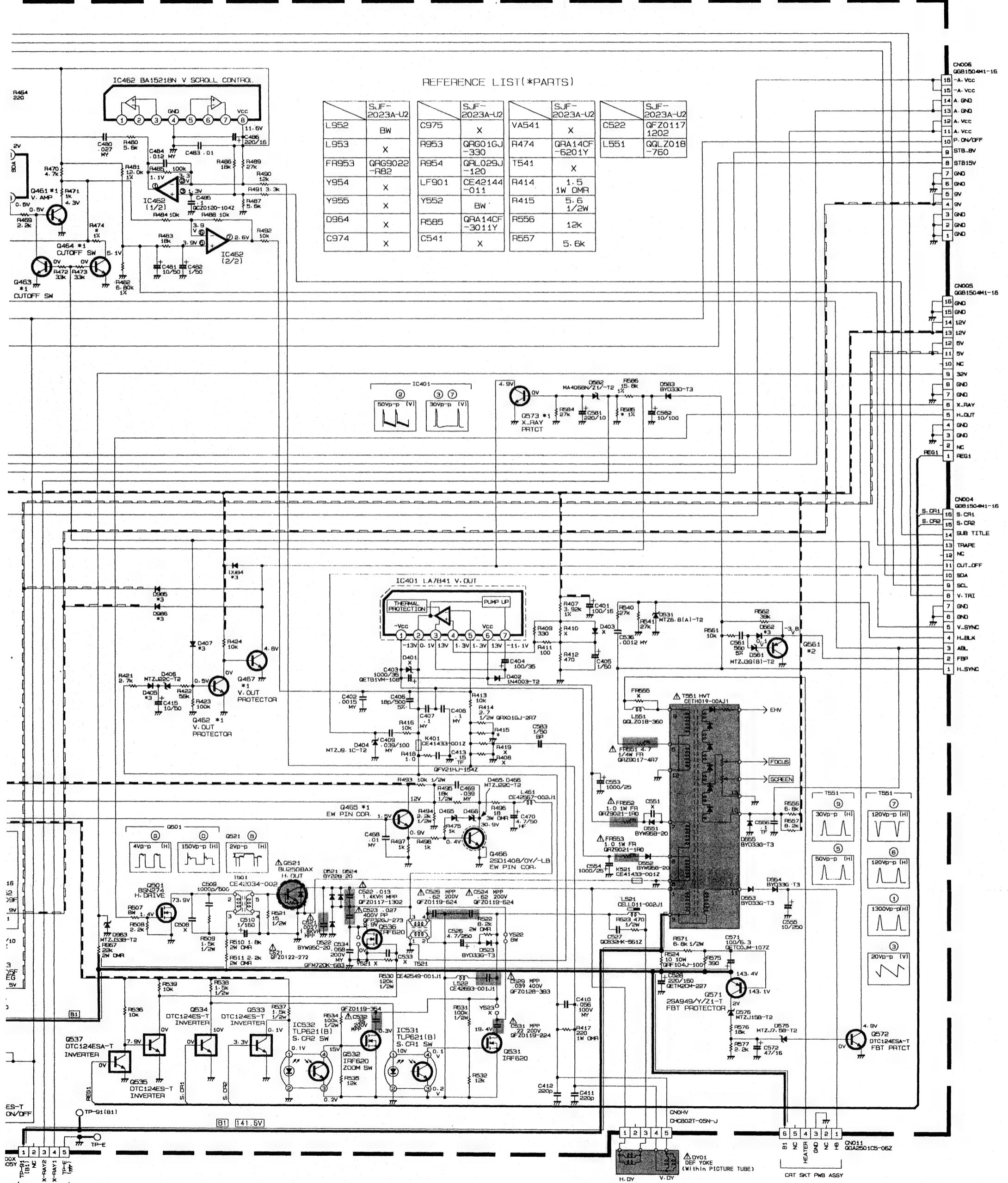
POWER/DEF PWB ASS'Y SJF-2023A-U2

NOTE

*1:2SC1815/YG/-T
*2:2SA1015/YG/-T
*3:1SS133-T2
BW:BUS WIRE
X:NON MOUNT
(OPTION)



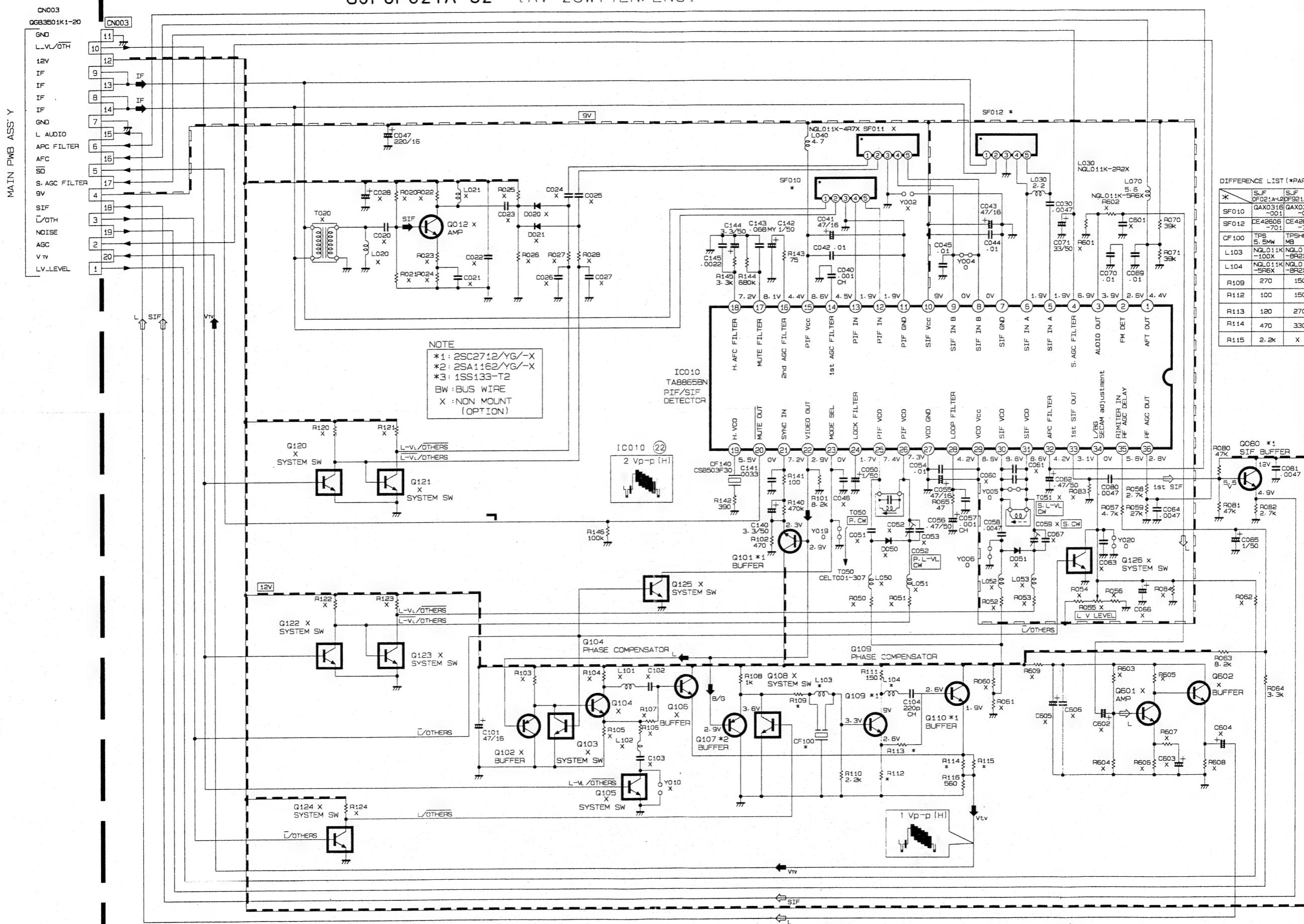
AV-28WT4EK
AV-28WT4EKS
AV-28WT4EN
AV-28WT4ENS



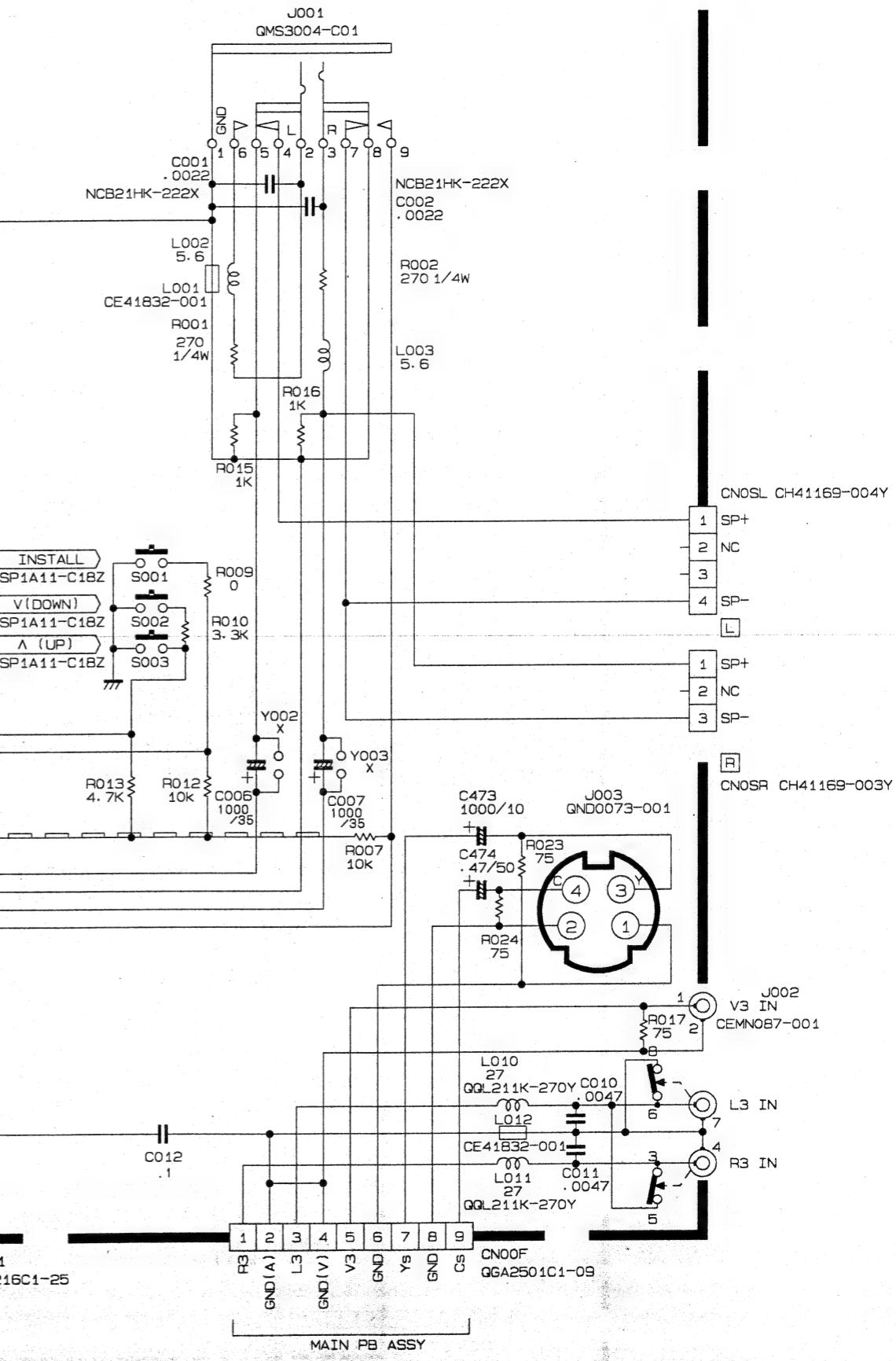
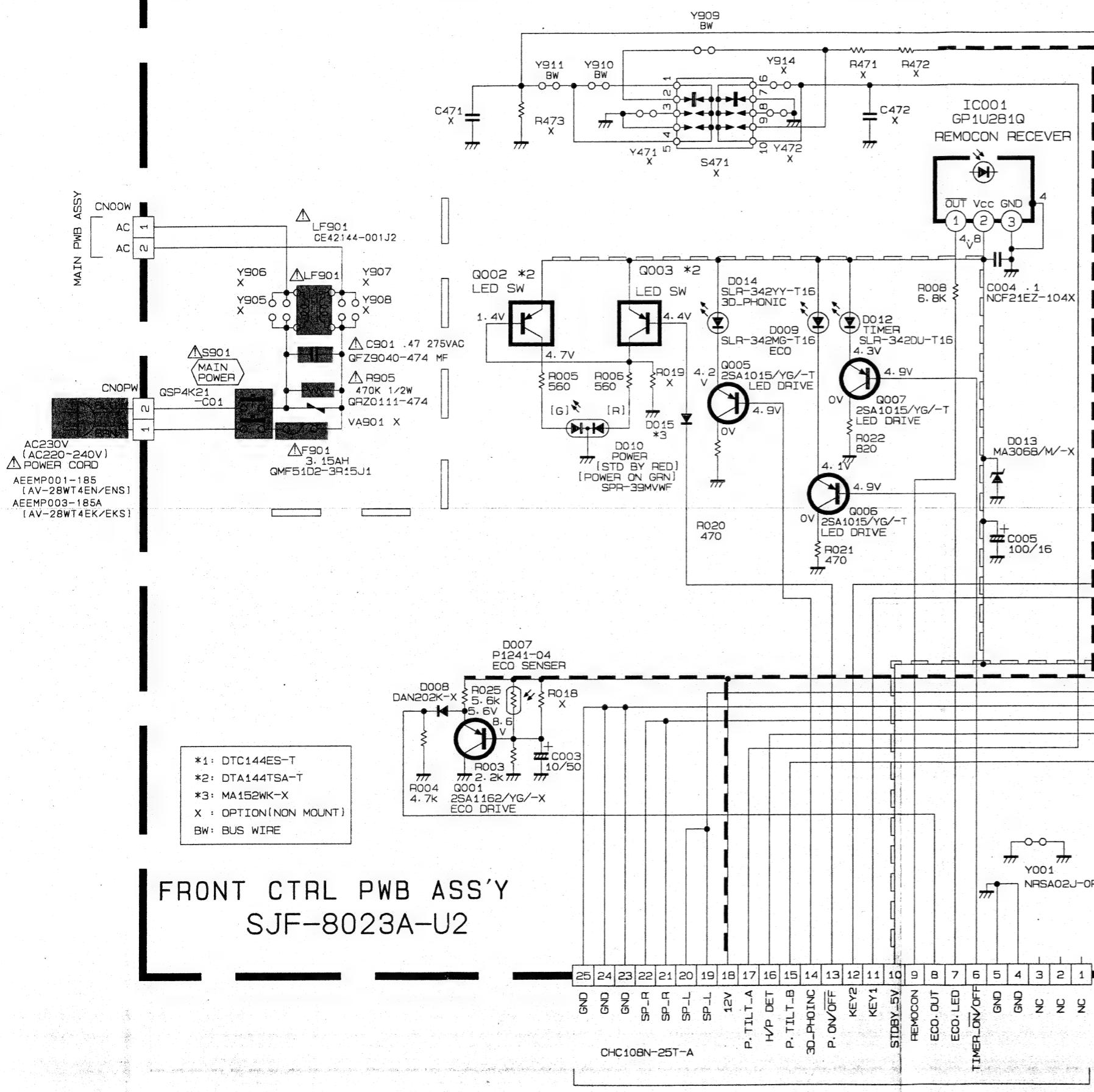
IF MODULE PWB CIRCUIT DIAGRAM

IF MODULE PWB SJF0F921A-U2
SJF0F021A-U2

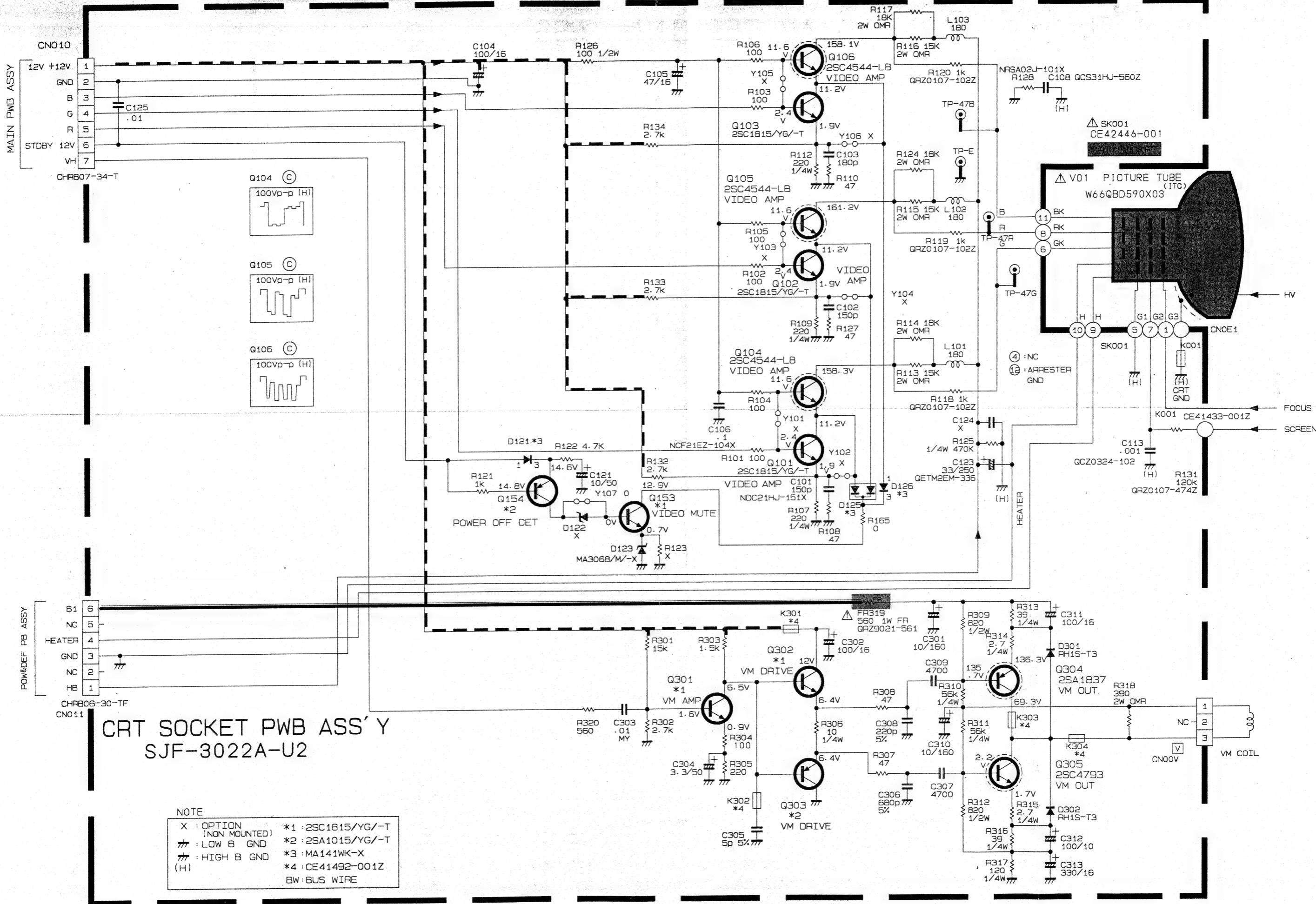
[AV-28WT4EK/EKS]
[AV-28WT4EN/ENS]



FRONT CONTROL PWB CIRCUIT DIAGRAM



CRT SOCKET PWB CIRCUIT DIAGRAM

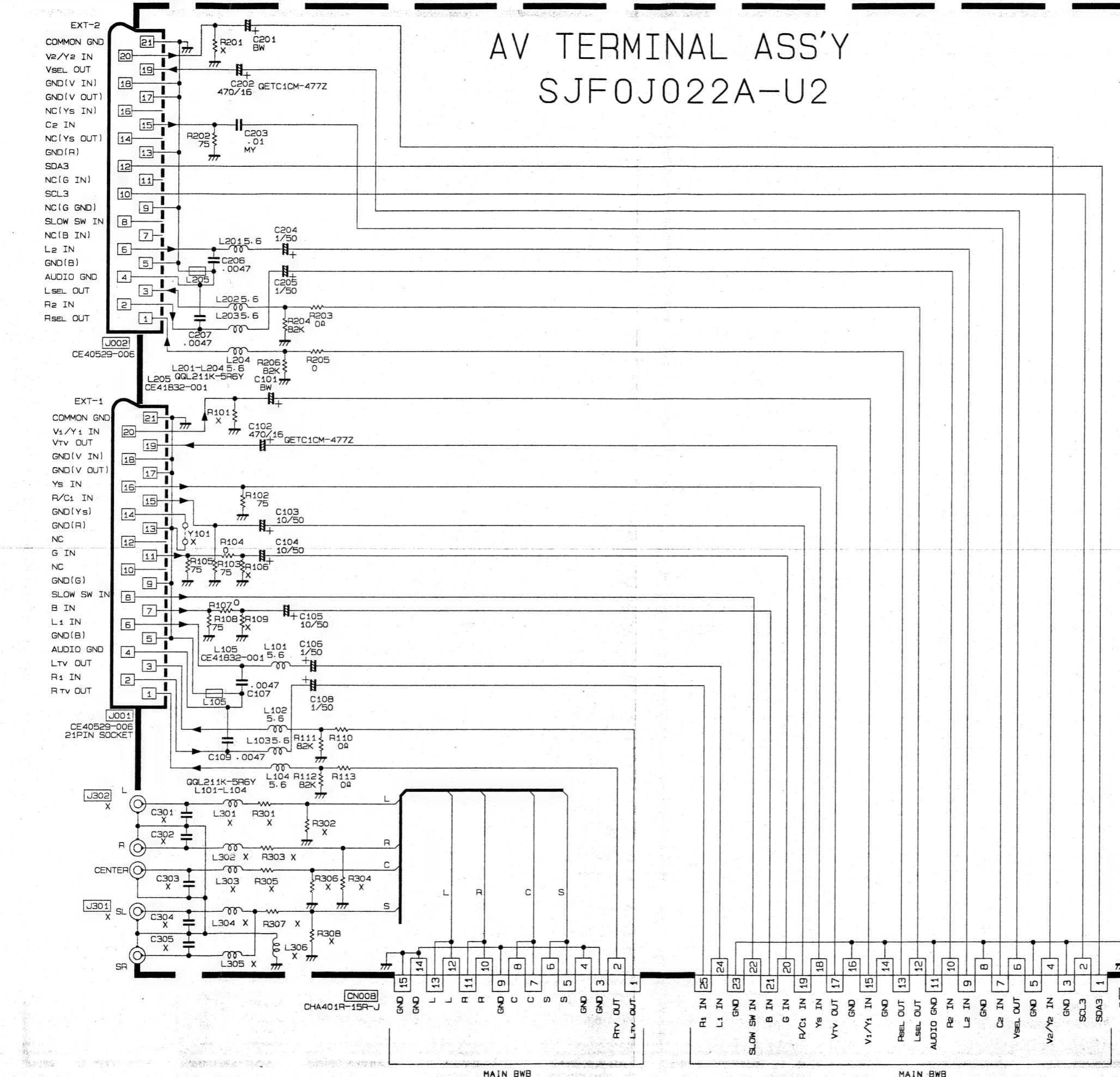


NOTE
 X : OPTION
 (NON MOUNTED) *1 : 2SC1815/YG/-T
 77 : LOW B GND *2 : 2SA1015/YG/-T
 77 : HIGH B GND *3 : MA141WK-X
 (H) *4 : CE41492-001Z
 BW : BUS WIRE

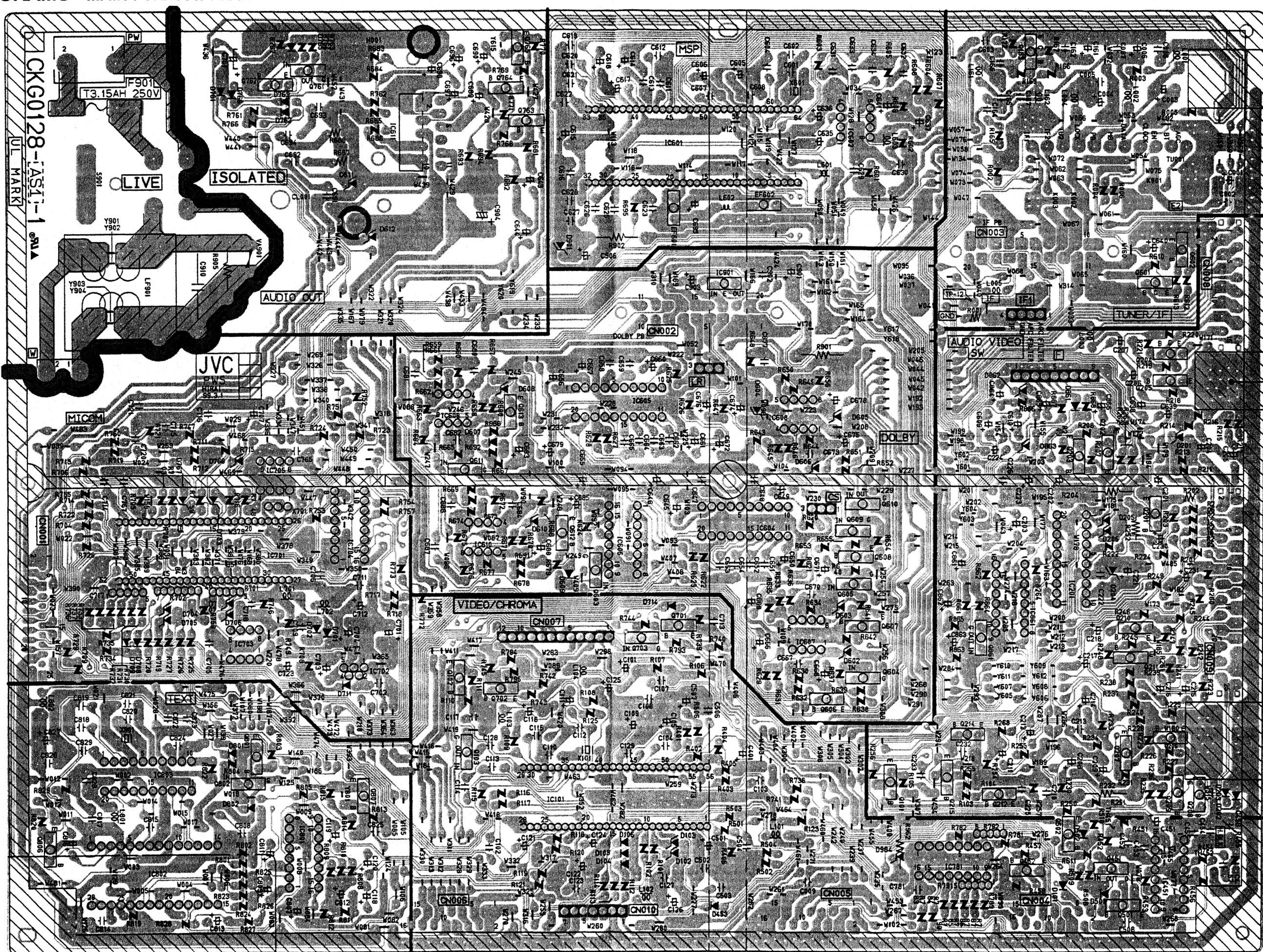
AV TERMINAL PWB CIRCUIT DIAGRAM

AV-28WT4EK
AV-28WT4EKS
AV-28WT4EN
AV-28WT4ENS

AV-28WT4EK
AV-28WT4EKS
AV-28WT4EN
AV-28WT4ENS

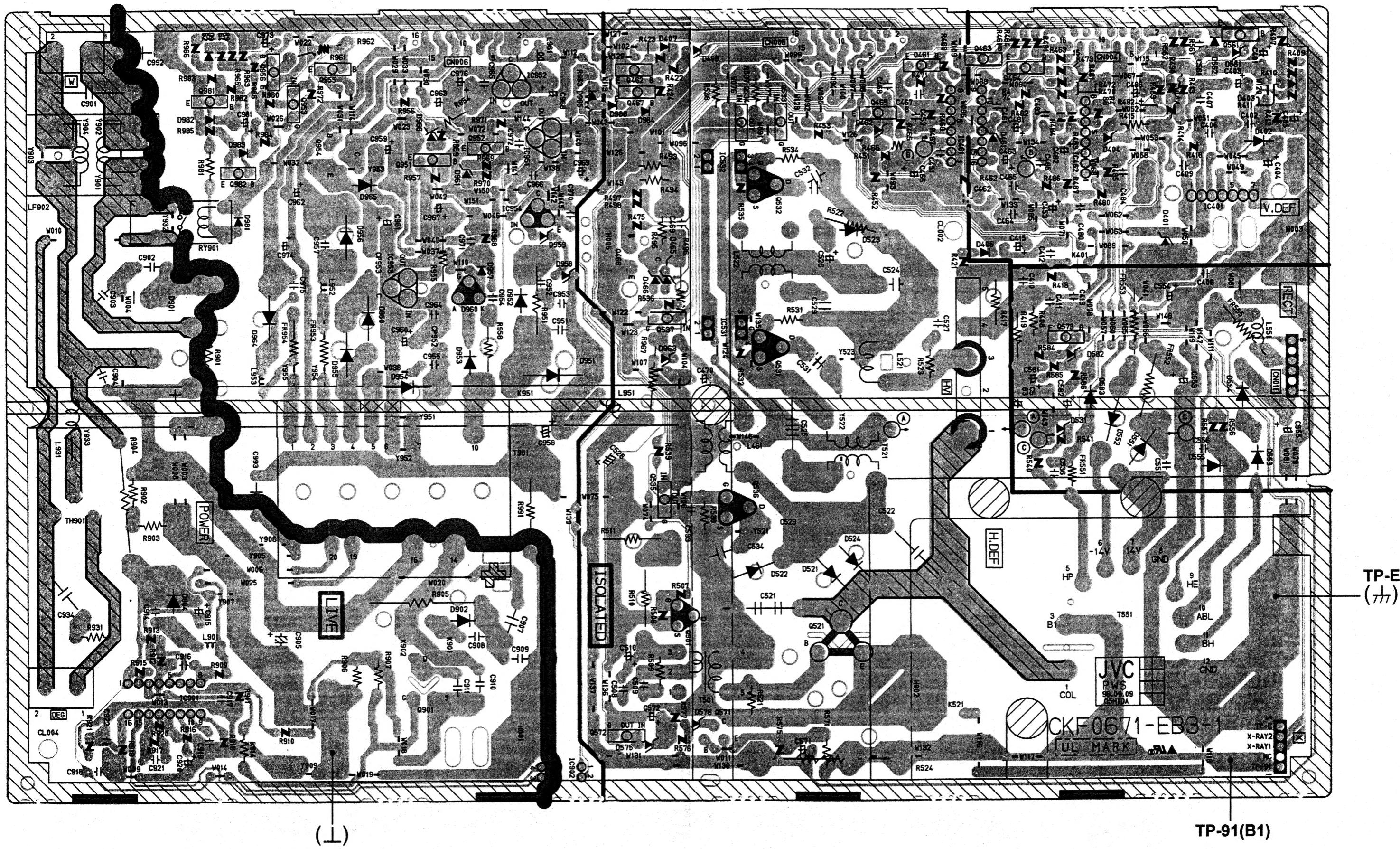


PATTERN DIAGRAMS MAIN PWB PATTERN



POWER/DEF PWB PATTERN

FRONT

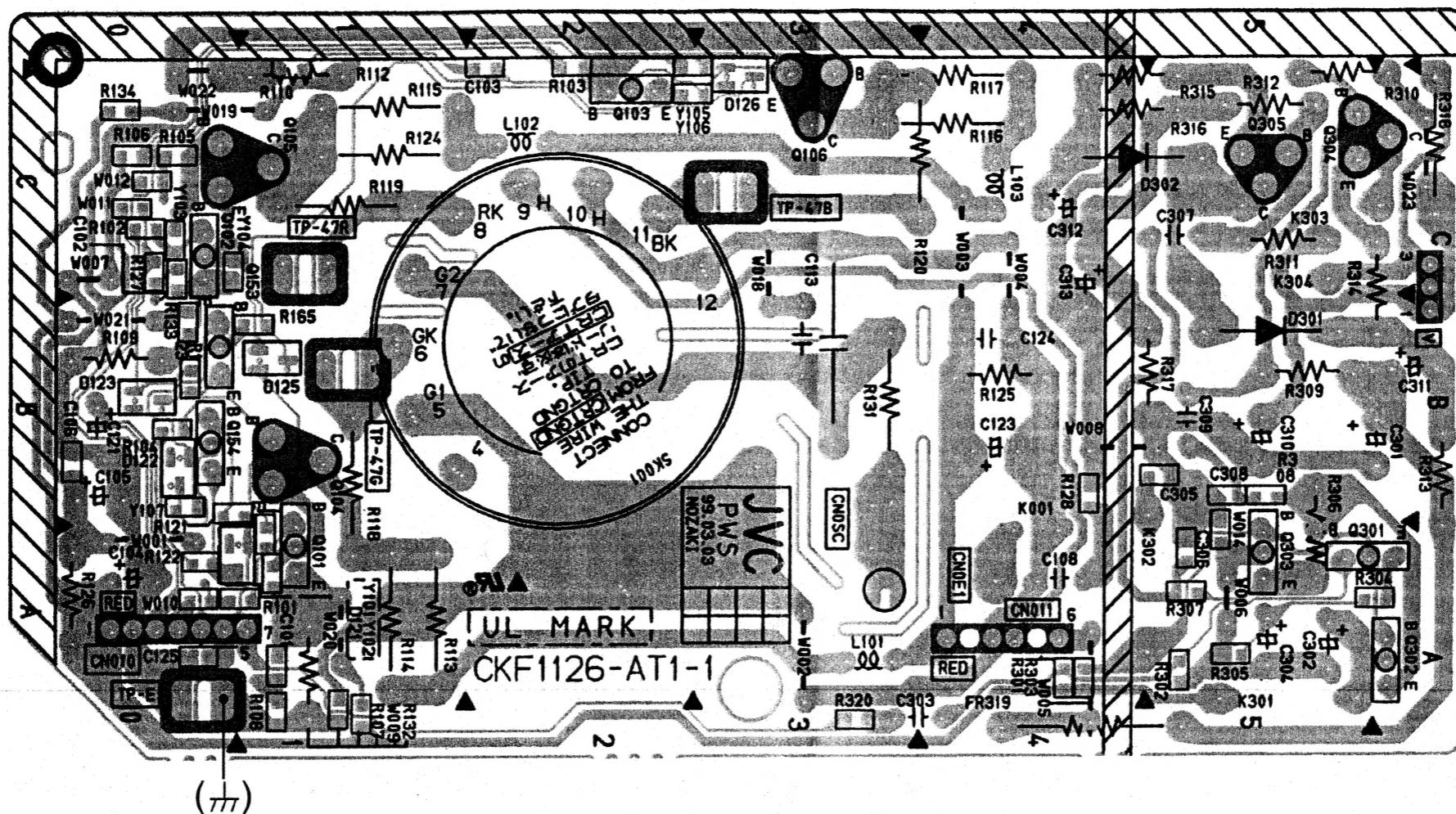


CRT SOCKET PWB PATTERN

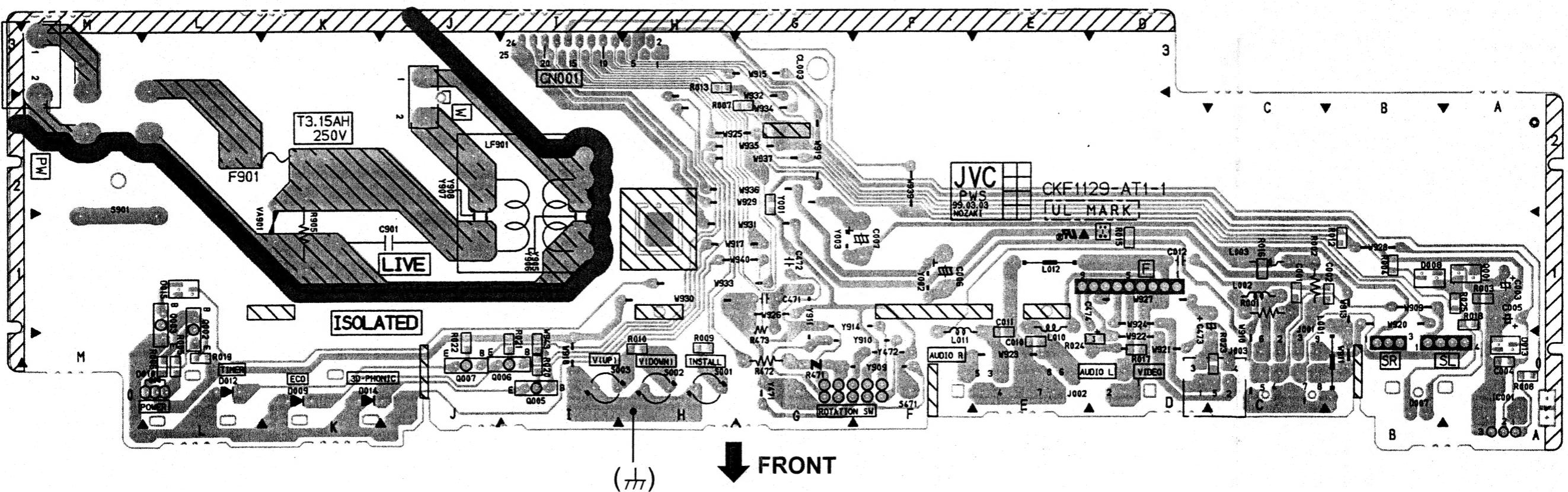
AV-28WT4EK
AV-28WT4EKS
AV-28WT4EN
AV-28WT4ENS

AV-28WT4EK
AV-28WT4EKS
AV-28WT4EN
AV-28WT4ENS

TOP



FRONT CONTROL PWB PATTERN

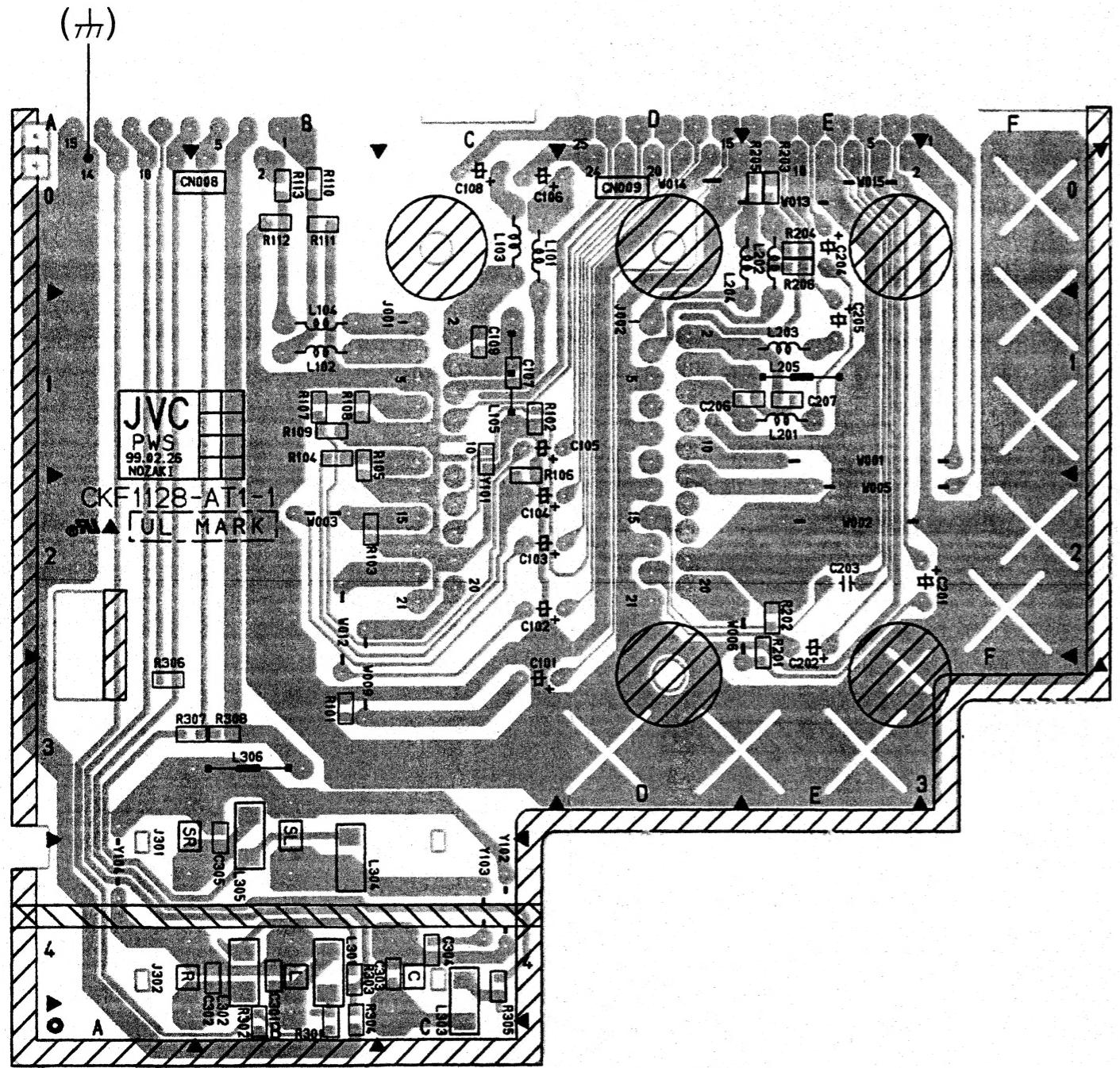


AV TERMINAL PWB PATTERN

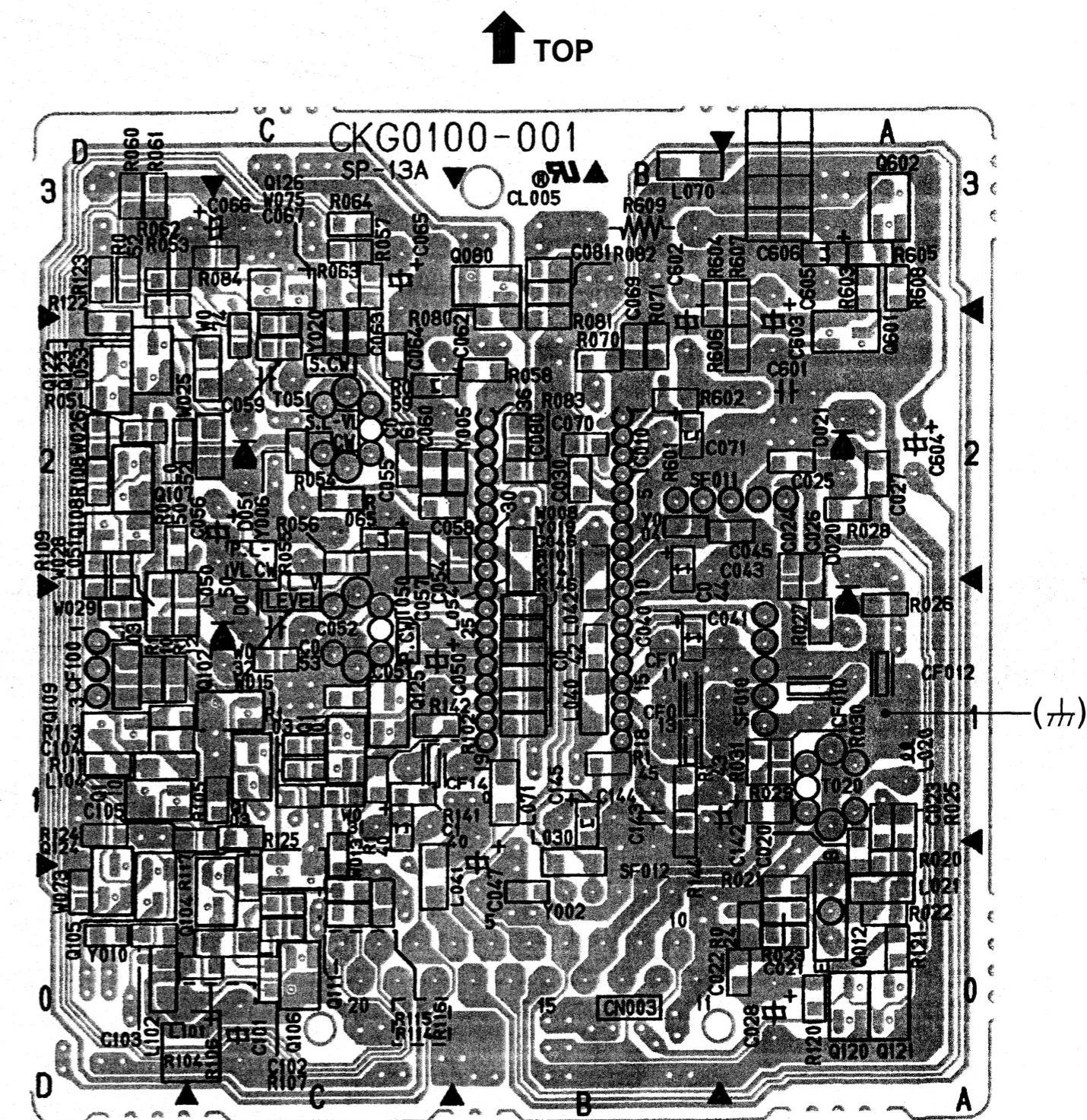
AV-28WT4EK
AV-28WT4EKS
AV-28WT4EN
AV-28WT4ENS

AV-28WT4EK
AV-28WT4EKS
AV-28WT4EN
AV-28WT4ENS

IF MODULE PWB PATTERN



TOP



No.51547